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Canadian Mills Cut News Print Quotations

Reduction of $5 Per Ton, Effective May 1, and $3 Per Ton Retroactive From Beginning of Year, Announced by Manufacturers Represented In Canadian Newsprint Institute Group —Action Apparently Taken Without Arrangement With International Paper Co. —Backus Organization Believed to Have Precipitated Situation

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 20, 1931—The manufacturers represented in the Canadian Newsprint Institute group announced over the week end a cut in the price of news print of $3 per ton retroactive from the beginning of this year to May 1 and of $5 per ton from May 1 onward. The recognized price heretofore existing was $55 f. o. b. mill, or $62 delivered in New York, with corresponding prices for other zones.

International Paper Co. Acts

Apparently this action was taken without arrangement with the International Paper Company, for during the week end this company forwarded the following telegram to its customers:

"Supplementing our letter dated March 17, we have just received information indicating that leading Canadian mills are reducing the price of news print to their customers. As soon as we have all the facts and have worked out the details you will hear from us again."

This telegram was sent out over the signature of J. L. Fearing, vice-president. An official of International Paper in Montreal stated that his company had no information as regards the reported cut beyond that contained in the telegram. The letter referred to in the telegram asked customers to keep the company advised of any information they might have of price cuts by other manufacturers.

Companies Confirming Reduction

The companies confirming the price reduction are Canada Power and Paper, Abitibi Power and Paper, St. Lawrence Corporation, and Price Brothers & Co. These mills have an aggregate daily capacity of 6,774 tons of news print, made up as follows:

	Tons
Canada Power	2,464
Abitibi	2,200
Price Bros.	1,260
St. Lawrence Corp.	850
Total	6,774

Ernest Rossiter, president of the St. Lawrence Corporation, in confirming the price cut, stated that the cut had been more or less dictated by the general situation created in the United States market, where since the first of the year cuts in price had been recorded by companies outside the Canadian group, and also what he termed the indefinite offer of tonnage by the Backus organization.

J. H. Gundy, president of Canada Power and Paper Corporation, also indicated that the action was merely a recognition of a situation already in existence, that is in the matter of price cutting by companies outside the group above mentioned.

Unsettling Factors Creating Situation

The situation is generally regarded as having been precipitated by the fact of the Minnesota and Ontario Company, the Backus organization, going into receivership, followed by an immediate lowering of prices by that company in order to get business. But a general return to free competition has long been anticipated, and further developments are anticipated as a preliminary to a drastic reorganization of the whole industry.

It is curious to note that the situation as it now stands in regard to the relations of the big producers parallels that at the closing of 1929. The Canadian group at that time announced an increase of $5 per ton, but withdrew the increase shortly afterwards, following the announcement of International Paper that they would continue the existing price as the time was not propitious for an increase. Now the Canadian group have again acted without the co-operation of International.

James River Paper Products Moves

RICHMOND, Va., April 20, 1931—Removal of the James River Paper Products Company to its newly acqured plant has started, J. Cloyd Kent, president, announces. The new plant was formerly occupied by the Virginia-Carolina Rubber Company, having been vacant for more than a year.

The move is being made gradually so that there will be no interruption in production. Machinery from the present plant at Sixth and Byrd streets will be transferred and new machinery will be acquired.

The James River Paper Products Company manufac turers paper sacks. Besides Mr. Kent its officers are Arthur B. Collins, vice-president, and A. Y. Waddey, secretary.

It new plant has a floor space of 25,000 square feet exclusive of office building. It was built four years ago.

Superintendents of Northern New York Meet

Spring Meeting of this Division of the American Pulp and Paper Mill Superintendents Association at Hotel Syracuse Is One of the Most Interesting and Largely Attended Ever Held —George W. Sisson, Jr. Speaks on Practical Application of Theories

SYRACUSE, N. Y., April 18, 1931—The spring meeting of the Northern New York Division of the American Pulp and Paper Mill Superintendents Association was held here today at the Hotel Syracuse, the entire day being given over to a business meeting and discussion of papers read by representatives of various concerns manufacturing equipment suitable for use in pulp or paper mills. It was one of the most largely attended meetings yet held by this division of the national Superintendents Association.

The morning session was called to order by Chairman H. Robert Heuer, following which Fred J. Rooney paid a tribute to the memory of the late Michael J. Argy. The first paper was submitted by J. A. Hamm of Shartle Brothers Machine Company on the subject of "A New Type Cylinder Vat."

The next paper read at the morning session was by F. K. Becker, of the Bird Machine Company titled "Why Centrifined Paper, and How." Both of these papers called for considerable discusssion and took up the entire morning's session.

The afternoon session opened with a paper by C. M. Klepser of Goulds Pump Inc. titled "Pumping of High Density stocks and Liquors." The discussions which followed on this subject were participated in both by Mr. Klepser and W. P. Gargin, chief engineer of the Goulds Pump Inc. R. N. Watts of the Cheney Bigelow Wire Works read a paper titled "Something new in Fourdrinier Wires" which related to the newest development in the production of Fourdrinier wires, giving specific information as to the results already accomplished with this new product. He cited instances of present installations where this new wire has been rendering satisfactory service for 57 days as against a service of 24 days rendered by the older type of wires. He cited several instances where this new wire has averaged over 60 percent in the increased life of wire, further stating that the suction boxes showed no grooving, the wire fitted the machine perfectly and remained so until worn out, and that it gave the lowest cost per ton.

J. O. Woodsome, Jr. of the Penberthy Injector Company, discussed "The Present Practice and Future Trends in Paper Drying."

The final paper of the afternoon session was by C. H. Kent, of Mansfield, Bolton & Kent, Inc., which pertained to "The Delthirna Sizing Process." Mr. Kent demonstrated this sizing process with the use of a working model.

Others who gave short talks were F. M. Williams, of the Williams Apparatus Company on the "New Jar Mill" recently introduced by him and S. E. Meyers of the Merirtt Engineering and Sales Company who mentioned some of the new inventions his company was developing.

At the banquet in the evening L. D. Post presided as toastmaster and elaborated on the growth of the paper industry in the Northern New York Section. He introduced Mr. George W. Sisson, Jr. of the Racquette River Paper Company, as speaker of the evening. Mr. Sisson, in his talk, pointed out that research, invention and practical application of theories to industry are essential factors to industrial progress. Before the close of the banquet B. deB. Millidge, mill manager of the Howard Smith Paper Mills, Cornwall, Ontario, was introduced and complimented the members for the interesting and instructive discussions, which took place at the meeting.

The success of the meeting was due largely to the untiring efforts of the chairman, H. Robert Heuer, Washburn Weston, chairman of the program committee, and Mr. and Mrs. Ronald W. Hynes, the latter entertaining the guests during the banquet with vocal selections.

Those Who Attended

The following is a list of those who registered at the Spring meeting of the Northern New York Division of the Superintendents Association at Syracuse:

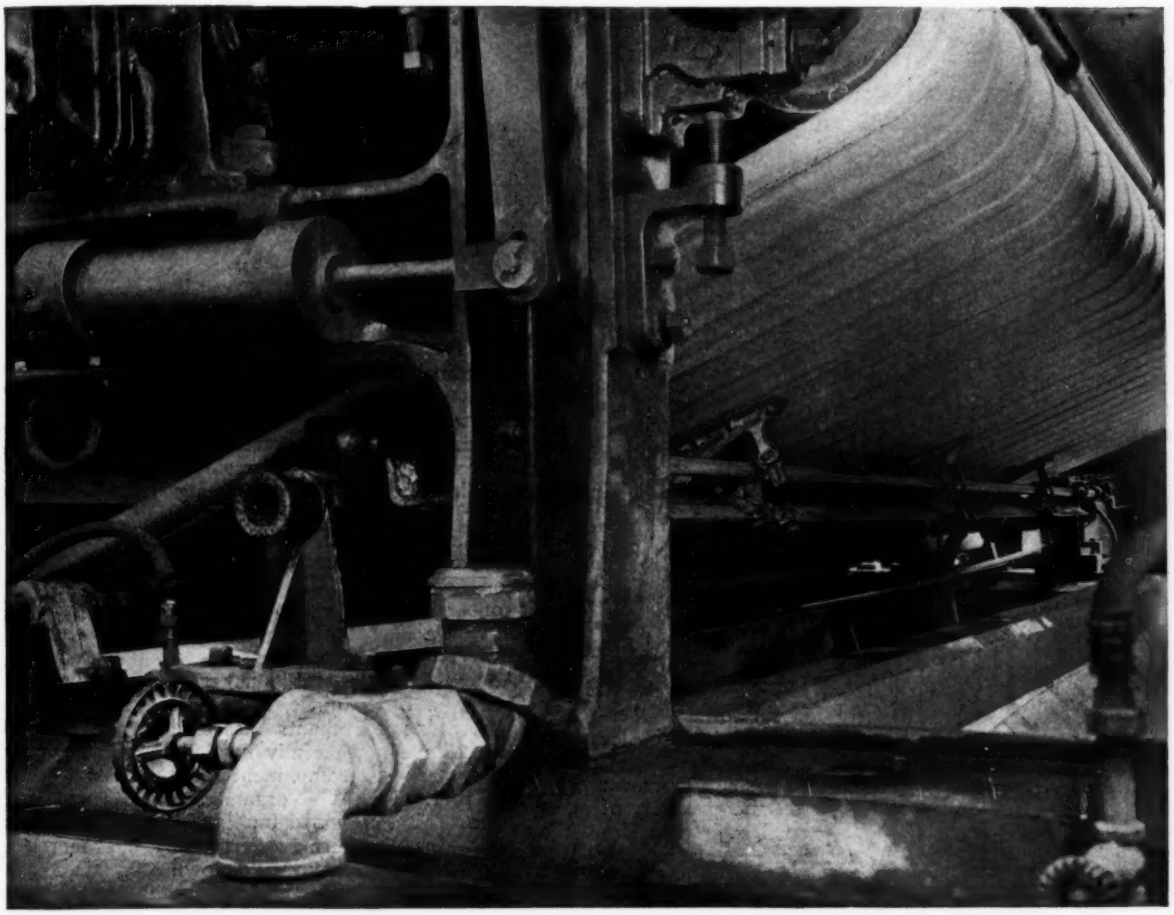
Ludwig Starck, J. O. Woodsome and J. O. Woodsome, Jr., of Detroit; H. A. Morrison, Oliver United Filters, Inc., past president and Mrs. Fred J. Rooney, The Upson Company; J. Gilbert Mason, Jr., Edgars Brothers Company; Herbert F. Freas, Spaulding Fibre Company; Walter I. Harte, Noble & Wood Machine Company; C. M. Conner, Electro Bleachine Gas Company; H. J. Farren, Baker Corporation; B. D. Millidge, and E. J. Thom, Howard Smith Paper Mills, Ltd.; Richmond W. Smith and F. K. Becker, Bird Machine Company.

Mr. and Mrs. L. D. Post and Joe Hodgins, of the Paper Mill; Mr. and Mrs. A. G. Wightman, Knownton Brothers; Don H. Montville and John Hamm, Shartle Brothers Machine Company; Floyd A. Seekins and F. E. Meyers, Merritt Engineering and Sales Company; R. E. Burkhardt, St. Regis Paper Company; D. O. Sawyer, Challenge Machinery Company; J. T. Hogan and Napoleon Rigabar, National Paper Products Company; Mr. and Mrs. M. W. Hedden, Racquette River Paper Company; Fred H. Burrows, Burrows Paper Company; A. L. Nielsen, Mohawk Valley Paper Company.

L. A. Fisher, Glens Falls Machine Works; L. N. McIntyre and H. E. McIntyre, McIntyre Brothers, Inc.; C. H. Kent, Mansfield, Bolton & Kent; Harry C. Kinne, Bagley & Sewall Company; O. M. Cornell, the Kalbfleisch Corporation; Washburn Weston, the American Wringer Company; R. Eustace and T. Moran, Manning Paper Company; F. C. Farnsworth and H. M. Raub, Farnsworth Company; H. H. Burrows, Manhattan Rubber and Manufacturing Company; F. C. Peterson, New York State College of Forestry; R. N. Watts, Cheney Bigelow Wire Works; J. D. Smeallie and S. O. Heiser, Smeallie & Voorhees, Inc.; Charles E. Hayden, Hayden Wire Works.

Kendrick P. Coachman and C. D. DeMers, Taylor Instrument Company; Mr. and Mrs. D. M. Kelly, Bloomer Brothers Company; Joe H. Dow, Eastwood Corporation; H. G. Rhode, American Paper Machinery and Engineering Works; L. E. Fitzpatrick and Milton J. McGuire, Paper Makers Chemical Corporation; Mr. and Mrs. R. W. Hynes and Chairman and Mrs. H. Robert Heuer, Newton Falls Paper Company; C. O. Bachman, Ryther & Pringle; N. B. Wardwell, Carthage Machine Company; Mr. and Mrs. R. F. Huntley, Oswego Falls Corporation; Professor

(Continued on Page 68)



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If a responsible felt maker announced a new felt, *guaranteed never to get dirty*, would you be interested?

That, in effect, is what the Vickery Felt Conditioner offers you — felts that are clean, fit for uniformly fast water removal, every minute they're on the machine. *No wash-ups.*

We suggest a trial installation, at our expense.

BIRD MACHINERY

BIRD MACHINE COMPANY
SOUTH WALPOLE • MASSACHUSETTS

VICKERY FELT CONDITIONER

4806

Demand for Paper Slightly Better In Chicago

Fine Paper Market Continues to Exhibit Upward Trend—Higher Grades Report Most Favorable Conditions—Book and Cover Papers Practically Unchanged—Kraft Paper Situation Brighter, With Quotations More Stable Than for Some Time Past

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 11, 1931—A tendency toward optimism still persists in the Chicago paper market, as the second quarter of the year gets under way. Perhaps one of the most favorable reports deals with the continued stability of the kraft market. It begins to look as though present prices would be maintained and even strengthened if business continues to improve. The fine paper market continues to carry on a slightly upward trend, with the best grades reporting the most favorable conditions. Books and covers are little changed over last week. In the board market, it is reported that there had been some waiting over the outcome of the Container Corporation annual meeting. With this event out of the way the board market continues its policy of pruning production wherever possible to cut down to the distribution schedule. The Container Corporation, one of the leaders in this group, is redoubling its efforts, according to reports, in the belief that the business is there. Glassines are still reported weak. Ground woods, too, are not strong.

Walter Cox Addresses Paper Salesmen

Members of the Middle Western Division of the Salesmen's Association of the Paper Industry got another slice of wisdom and understanding under their belts on Monday, April 6, when Walter Cox, of the Paterson Parchment Paper Company, gave his discussion on the products of that company. Mr. Cox had some actual samples of his company's product on hand and gave an interesting talk on problems, processes, etc. The salesmen learned, among other things, about the tremendous volume of printing that Mr. Paterson got in on, due to the fact that a large amount of their product is sold to merchandisers.

A surprise contribution at the meeting was afforded by a talk given by George K. Gibson, of Mosinee, one of the most well informed members of the kraft fraternity. Mr. Gibson, while not unduly optimistic over the immediate future of the industry did declare than bankers, producers and consumers in the kraft business were determined to maintain prices and a close watch is being kept on any efforts to again cut quotations. Mr. Gibson believes that the kraft price may be expected to be stable now. He also reported a more optimistic tone in the market.

Selling Policy Principles Defined

The complete report of the proceedings of the Paperboard Industries Association meeting in New York City on March 18 and 19 was mailed out this week from the Chicago offices of the association at 608 South Dearborn street. One of the most interesting parts of the program, say Chicago members, was the address given by President Macleod. He closed an excellent address with twelve selling policy principles which are being widely quoted in this region. The twelve are worthy of the scrutiny of every paper executive and include replacing volume sales with honest, intelligent and aggressive selling at a profit; one price to all; abandon all misrepresentation; abolish all secret rebates; no sales at cost or below cost; eliminate all commercial bribery; maintain standards as established by the industry; maintain a cooperative attitude toward competitors; adopt a sales policy fair to all, and carry it out; refuse to indulge in price cutting because of rumors about competitor's actions; insist that every order include a reasonable profit and, finally, support your trade organization to the limit of your ability.

Annual Salesmen's Banquet

More than three hundred members and guests thoroughly enjoyed the Annual Salesmen's Banquet of the Chicago Paper Association held on the evening of April 14 at the Madinah Athletic Club. The theme of the entire program,—"Sales and Salesmen"—was carried out in the discussions made by four guests who caught the spirit of the program and helped a great deal to make the evening a real success. D. F. Peck, president, presided over the festivities in original style, introducing as the first speaker W. C. McLaughlin, general manager of Chatfield Paper Corporation, Cincinnati, and president of the Middle States Wrapping Paper Association. Mr. McLaughlin spoke on salesmanship, giving his conception of the real spirit of selling, urging a real two-fisted sales effort coupled with a continued program to keep levelheaded and strive for fair prices at all times.

C. A. Spaulding, general manager of the Carpenter Paper Company, Des Moines, Iowa, and a member of the Iowa Wrapping Merchants Association, was the next speaker. He very gracefully handed the Chicago Paper Association a sincere compliment for its accomplishments, spoke of the real job that organization had done and of the reputation it had gained for itself in the Middle West. The third speaker, Sherman Perry, sales manager of the Chrysler Tissue Company, Middletown, Ohio, is constantly in touch with the trade and his remarks on general conditions, on present day selling and on future possibilities were unusually interesting. O. W. Rosenthal of Rosenthal Cornell Company, Chicago, builders and contractors, concluded the program with another forceful message to the salesmen.

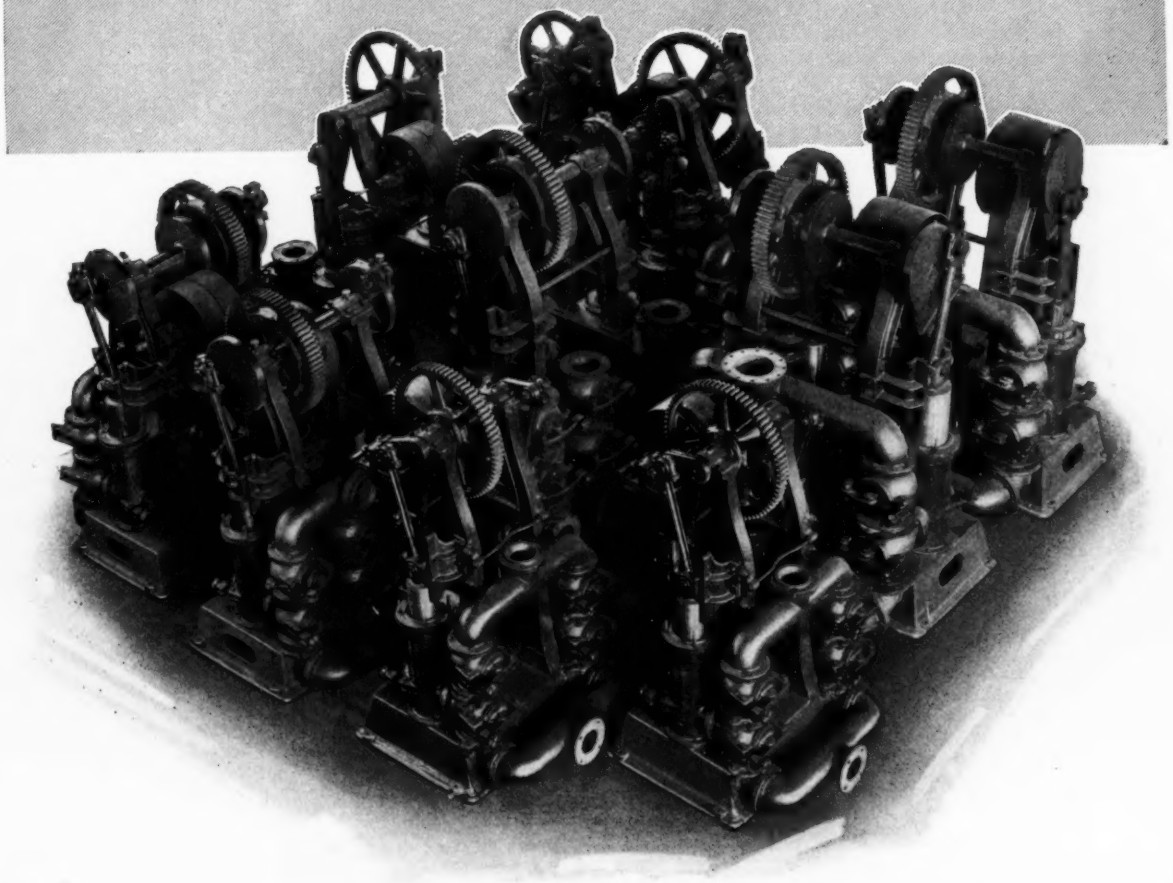
News of the Industry

The Fibre Box Testing Laboratory, 529 South Franklin street, Chicago, equipped to make designs and tests for members of the Paperboard Industries Association, or others, on a service charge, is being operated by Ward & Gresher, former employes of the association. The laboratory equipment formerly belonging to the association was leased to these two men on January 1. Drum tests, package designs, testing of liner board samples and other work is being done by the laboratory.

The LaSalle Paper Company has just issued two interesting booklets describing Volume Bond and Volume Ledger. The cover of the mailing piece on Volume Ledger is Atlantic Cover, India-Antique Finish, and the one on Volume Bond is on Atlantic Cover-Granite Finish. Four substances of White and four of Buff are featured in the Volume Ledger description and four substances of white and colors blue, canary, golden rod, pink, green, buff and rust in the booklet on Volume Bond. Both are made by the Eastern Manufacturing Company.

A neat way to announce Westvaco Inspiration Eggshell, an antique wove book paper, has been made use of by the West Virginia Pulp and Paper Company. A folder, sent from the Chicago offices at 35 East Wacker Drive, carries just three lines of type, besides the cover announcement, one illustration and a heading.

Immediate Shipment—Pumps are ofttimes wanted in a hurry. For that reason we always carry a stock of the most used sizes in both Duplex and Triplex Types. Hundreds of these pumps are now in use, giving excellent service. If you need a pump now, or at any time, write, wire or phone us. We can probably ship whatever you want, immediately. If you have never used a Downingtown Pump and would like to know about them, we will gladly send you a copy of our Catalog No. 111 and a list of mills using our pumps. Downingtown Manufacturing Co., Downingtown, Pa.



News Print Situation Continues Involved

Property Values Proving Stumbling Block In Merger Negotiations—Reorganization of Canada Power & Paper Co. May Set Basis for Valuation—Possibility of Consolidation of Backus Interests With International Power & Paper Co. Discussed

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 20, 1931—Notwithstanding the publication of returns showing a small seasonal increase in the production of news print in Canada during March, as compared with the previous month, the past week has been most unfavorable. It has seen the price of securities of pulp and paper companies fall to the lowest level on record, and it has seen Premier Taschereau deliver an attack on news print operators, whom he accused of stock manipulations.

In regard to the price of securities, the most sensational feature was the establishment of a new low for the common stock of Canada Power and Paper Corporation at 75 cents, which compares with the peak price of $55 per share in 1928. Abitibi common sold at 7 as compared with the high of 84½ in 1928; Donnacona at 10 as compared with 27⅛, the high of 1930; Dryden at 4, as compared with the high of 15 in 1930; Fraser Companies at 1¼, as compared with the high of 99 in 1928; Howard Smith at 4¾ as compared with the high at 29½ in 1929; Price Bros. at 37 as compared with a high of 121 in 1929; St. Lawrence Corporation at 2 as compared with the high of 8¾ in 1930.

New Angle to Merger Negotiations

A new angle has been given to current gossip over merger negotiations by the statement, apparently made with some authority, that there is a likelihood of a consolidation of the Backus interests with International Paper. Some think that this may be the first merger to be announced. Others inclined to the view that these companies will await the outcome of the difficult task now being undertaken by the protective committee of Canada Power and Paper in reorganizing the finances of that company. Property values have been the stumbling block all along in merger negotiations, and it is considered that a reorganization of Canada Power and Paper, which controls so many of the larger mills, may set a basis for valuation. The general belief now is that until Canada Power and Paper's affairs are settled no general merger is likely to be affected.

Premier Taschereau Attacks Promoters

Premier Taschereau, in a carefully prepared statement on the pulp and paper situation, said that an artificial situation has been created in the industry in the operation of gaining world supremacy for Canada in the manufacture of news print, more attention having been devoted to promotion and production than to increasing demand for the product. He proceeded: "With the promoter as an anaesthetist, the public has played the role of an operative patient under the deadening influence of stocks split twice, three times, four for one, and even five for one, but when the ether gives out, the patient shows signs of recovery from his insensibility and gradually regains his normal bearing. By bestowing very much more attention upon the organization of promotion and the art of production than upon the limitations of demand, the pulp and paper industry of Canada in general, and Quebec, in particular, can thank itself for the present situation. The unfortunate fact results that a halt must be called until demand can catch up. In the meantime, not only the investor, but the general public at large are entitled to know who is to blame.

"Prominence has recently been given certain sections of the press, to blaming the Government of Quebec for the present crisis," continued the Premier. "To offset this criticism by means of contradictory phrases would not be good enough, and, for the gravity of the circumstances, would neither be adequate nor convincing. It is fortunate, therefore, that the Government of the people has concrete evidence to refute the insinuations which are hurled at it with such irresponsible ease."

Warnings by Government

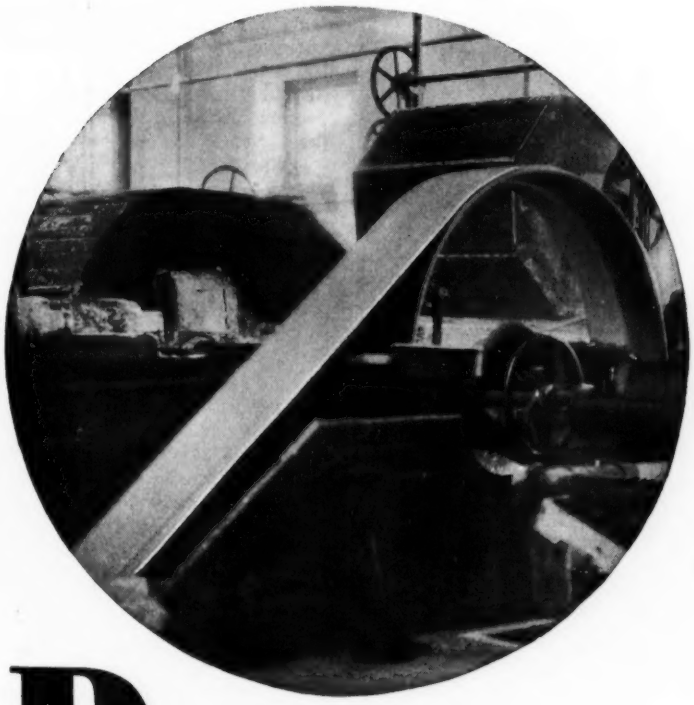
"Almost three years ago," continued the Premier, "in the report for the year ended June 30, 1928, the Hon. Mr. Mercier, Minister of Lands and Forests, included a resume of the situation at that time of the pulp and paper industry in Quebec. It was affirmed that the industry could not continue to grow indefinitely as it had been doing during the past twenty years, and that it was not reasonable for it to depend exclusively on a constant production of a 100 per cent of its normal plant installation, in order to live profitably. Among other warnings, it was pointed out that the industry should cease to seek its safety in the manufacture of news print alone and a plea was made for a more rational use of the forest products of the province, in commerce, as well as in industry. Practical suggestions were made as to additional sources of consumption.

"There are those who apparently consider that the government should have strangled the industry," went on the Premier. "This, of course, was out of the question. As we have seen, in its wisdom it reviewed the situation, and issued its warnings, and offered its suggestions. What happened? Let us examine the reaction of the promoters and the industry to this sane and safe advice given in 1928.

"In 1928 the total capital invested in the pulp and paper industry in Canada was $579,853,552, of which $295,505,452 was in Quebec and $201,763,069 was in Ontario, and the balance divided among the provinces of British Columbia, New Brunswick and Nova Scotia. During the course of the next year, in 1929, this total capital investment had increased to $644,773,806, of which $353,401,187 was in Quebec, and $207,005,896 in Ontario, and the balance in the other three provinces named. Of the total increase in capital investment in the industry in Canada in the one year, 1929, of $64,920,254, Quebec accounted for $57,895,732. This was the industry's answer to the warnings of the Quebec Government, an increase of capital investments in one year of 20 per cent.

Newsprint Institute Averts Catastrophe

"Facing the facts in an impartial manner it seems incredible that $58,000,000 of additional capital should be sunk in capital investment in this industry in this province in a year when there was very real danger of a price war breaking out at any moment. The catastrophe was averted only by the establishment of the Newsprint Institute of Canada, a system of pooling the output and dividing the



Design in GOODYEAR BELTING

cares for shock-loads on beater

Overload and shocks on beater drives are provided for in the design of Goodyear Transmission Belting. Where the drive has open pulleys Goodyear Compass (Cord) Endless Belt gives matchless service. Inlaid cords take up the shocks — a bias-cut envelope takes the destructive surface wear. This is the most nearly stretchless belt made! Goodyear Thor Belt, seamless*, the ideal belt for beaters where endless belts cannot be applied, is made of silver duck — strong at fasteners—and is likewise housed in a stout protecting cover. Both Compass Endless and Thor are cushioned from excess shock and buttressed throughout with long-lived rubber.

Goodyear Transmission Belting is specified to the conditions of your drives by the G. T. M. — Goodyear Technical Man. He is an expert in belting for paper mills. He also applies Goodyear Soft-Nozzle Sanitary Hose for wash-up purposes and brings valuable savings to your power plant in the purchase of packing. He has reduced costs in many plants similar to yours. To see him, just write to Goodyear, Akron, Ohio, or Los Angeles, California, and ask the G.T.M. to call.

**Goodyear Thor Belting, seamless, is made in widths up to and including 16" — Thor quality of special construction is available for larger sizes*

THE GREATEST NAME IN RUBBER

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market. There could not be conceived a more artificial or flimsy arrangement for the foundations of a great industry, and yet these are the facts.

"It is not an uncommon experience in human affairs for the guilty to endeavor to place the blame for their misconduct upon the innocent. This usually happens when the guilty party has reached the last extremity, and the news print industry of Quebec is now in that position. How did it get there? There is only one answer, and that is through the promoters' passion 'to get,' and this is no abuse of language. Abundant illustration of the mischief already done in this direction is easily available, and through it all runs the excessive over-capitalization of the industry carried out within the past few years. 'Future profits' have been capitalized and the over-capitalization converted, it may be presumed, to the benefit of the enterprising promoters, and as a result this basic industry has been hopelessly loaded almost to the crack of doom."

Shadow of Coming Events

"Such being the leading principles underlying this business, look now at the details of the performance," said the Premier. "Over one year before the stock market collapse of 1929, the news print stocks began to slip from their position as market leaders. That in itself was the infallible shadow of coming events. But what about actual productions?

"Back in 1913, production had been only 350,000 tons per annum. By 1922, the total was over 1,000,000 tons, or three times as much. The next year there was a gain of 175,000 tons; in 1925, 169,000 tons; in 1926, 350,000 tons; in 1928, 294,000 tons, and in 1929, 347,000 tons. Between 1921 and 1929 the output of Canadian news print had gone up from 812,000 tons to 2,728,000 tons, a gain of 230 per cent, and the year 1930 had to absorb at first an increase of 950 tons per day, which was afterwards brought up to 1,200 tons a day, representing an addition to surplus capacity in that year at the rate of 375,000 tons per annum. These are the figures of over-expansion."

Production Rapidly Outstrips Demand

"In the meantime, what of the market?" asked the Premier. "In 1922 Canadian mills operated at close to capacity or, in other words, they were able to sell practically all they produced. This condition, fluctuating slightly from time to time, continued to 1925 and remained almost as favorable until 1926. From 1927 onwards the tremendously increased capacity for production rapidly outstripped all possible demand or consumption and the ratio of demand to production fell to below 80 per cent in 1928 and 1929 and down to 66 per cent in 1930, until today some companies are operating under 50 per cent, a condition which is obviously insupportable.

"Demand and price fell together," said the Premier. "By 1922, the peak prices of 1920-21 of $130 per ton had dropped to $70. They rose again in 1923 to $75, only to drop year by year to 1928 to $60 per ton, the lowest price at that time for ten years. By 1929 the artificial price of $55 was stabilized through means of pooling arrangements.

"In spite of these circumstances such are our natural advantages in pulpwood and water power, it is surprising to realize that the paper companies uniformly have maintained good operating profits. We need no further proof of the inherent strength of a leading basic industry, vital to the prosperity of the country and especially to that of the province of Quebec.

"The financial development of any basic industry is a public question and the present crisis is not a matter of concern only to the promoters and their clients, but is a matter of concern to every citizen of Quebec. We have reviewed the various factors in this industry and have seen the unwarranted over-expansion out of all proportion to demand and falling prices. We have seen the situation propped up by artificial arrangements and in the face of these circumstances the promoters of Quebec threw $58,000,000 of the public's money into additional capital investments in this industry in 1929. This proficiency in clapping a crushing mortgage on an essential basic industry seems to come as easily to our promoters as falling off a log.

"This discussion is not primarily interested in offering a solution to the present crisis in the industry, but the solution is obvious and can be stated in a word. The antiseptic treatment of squeezing out the watered stock, though a painful process, would seem to be a common sense treatment to bring about recovery. With news print prices seeking their own level, and a revaluation of capital assets downwards, the present artificial situation could be exploded and there should be no reason why decent profits could not be made on a proper capital valuation.

"Now that this most skilfully blown bubble has burst, it is a matter of public interest to know where to fix the blame.

"As we have seen," concluded the Premier, "the blame is not upon the Government of Quebec, which with prophetic insight sent out its warning in time. The whole story would take a volume to tell, but possibly enough has been said to indicate the flimsiness of the structure of the paper industry's financing. Looking at the paper industry, solely as an industry, it is a profitable one, as is amply evidenced by the last financial statements of such companies as Abitibi Power and Paper Company which showed a profit of $7,374,000; the Canada Power and Paper Company, a profit of $6,185,000; St. Lawrence Paper Company, a profit of $1,400,000, and Price Brothers showed a profit of $3,330,000.

"These are only four and not all the companies engaged in this industry, and yet for the above named companies we have a profit of over $18,000,000 in one year. But when we examine the methods of financing the record with regard to the industry's securities, it becomes obvious to all that the real cause of the present dilemma has been the promoter's insatiable desire 'to make'."

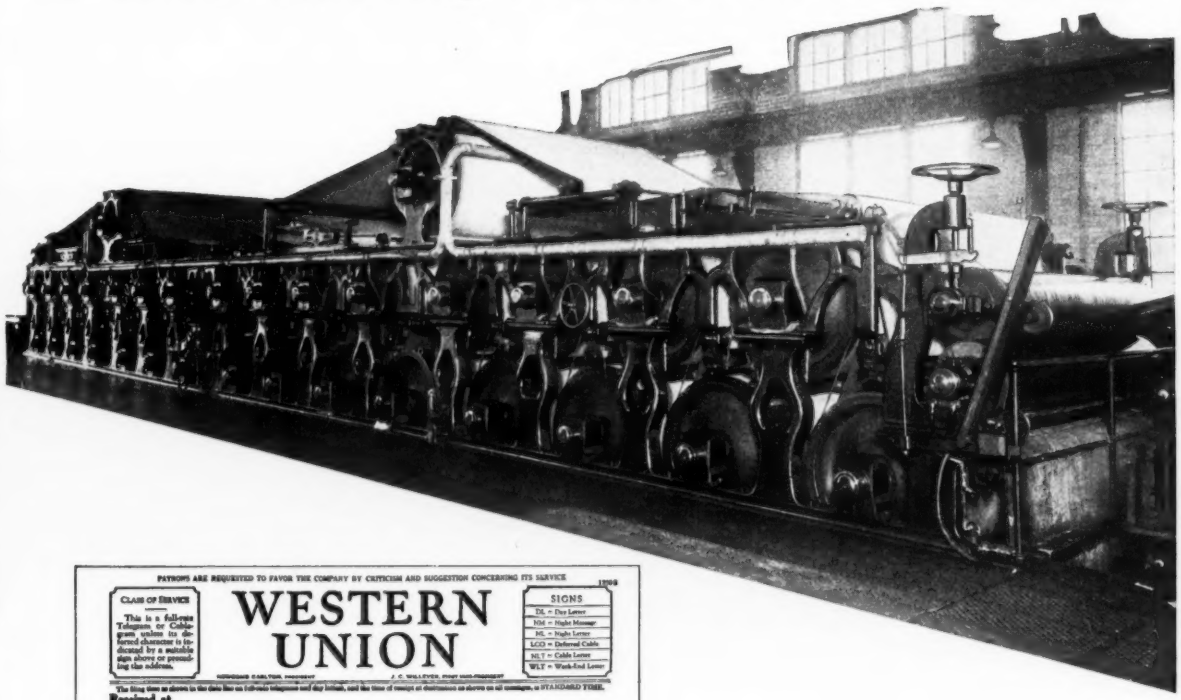
Westminster Paper Co. Doing Well

Officials of Westminster Paper Company, Ltd., report that interest for the year ending July 31, 1931, on the $300,000 issue of 6½ per cent first mortgage debentures was earned in the first three months of operation, according to a despatch from Vancouver. The new plant which replaced the one destroyed by fire went into operation in June last year and has operated on full schedules ever since. Efforts are being continued to expand the company's export business, the president, J. J. Herb, being at present on a business tour of the countries bordering on the Pacific, including China and Japan. Not being engaged in the news print business, but in the sales of paper specialties, this company is not affected by the depressed state of the news print market.

Lack of Rain Creates Menace

Serious fire hazards have been created in the forests of Quebec and New Brunswick through lack of moisture. There was so little rain last fall that a water shortage was created. Many wells in farming districts went dry and remained dry until the freeze-up came, the first time in history that such a thing has occurred as entering the winter with dry wells.

The famous Smith paper machine is still making remarkable records.



PATRONS ARE REQUESTED TO FAVOR THE COMPANY BY CRITICISM AND SUGGESTION CONCERNING ITS SERVICE

CLASS OF SERVICE
This is a full-rate Telegram or Cable-gram unless its de-ferred character is in-dicated by a suitable sign above or preced-ing the address.

WESTERN UNION

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MACHINE RUNNING NINE HUNDRED FIFTY FEET,FORTY POUND KRAFT, MULLEN ONE HUNDRED THREE PERCENT,TEAR WITH TWO HUNDRED NINE PERCENT,TEAR ACROSS TWO HUNDRED FIFTY TWO PERCENT PRODUCTION SEVEN THOUSAND FIVE HUNDRED TWENTY POUNDS PER HOUR ONE HUNDRED AND FOURTEEN INCH DECKLE THIRTY=FORTY EIGHT INCH DRYERS, FURNISH ONE HUNDRED PERCENT DRY KRAFT STOP LAST WEEK MADE EIGHT THOUSAND POUNDS PER HOUR ON SIXTY POUNDS SHEET ONE HUNDRED SIXTEEN INCHES WIDE MAILING SAMPLES=

THE SORG PAPER CO A F SMITH.

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THE QUICKEST, SUREST AND SAFEST WAY TO SEND MONEY IS BY TELEGRAPH OR CABLE

The creators of this famous machine are always willing to give you the benefit of their wide experience.

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LAWRENCE, MASS., U.S.A.
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Beater Bed Plates, Beater Fly Bars, Beater Rolls, Beating Engines, Brushing Engines, Cylinder Paper and Board Machines, Conservators (Pope), Dryers, Fourdrinier Paper Machines, Jordan Engines, Jordan Fillings (Regular Steel, Bronze, Stainless Steel and Iron), Paper and Board Cutters, Cutter Knives, Press Rolls (Rubber Covered, Granite, Iron, Wood), Screens, Suction Boxes and Covers, Vats (for Paper Machines), Washing Engines, Wet Machines.

Pennsylvania Paper Mills Continue Active

Manufacturers of Practically All Standard Grades Expect to Maintain Present Schedule of Operations for Several Months, With Gradual Increase In Late Summer—Majority of Mills Working On Five Day Week At Present, With Some On Full Time

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 20, 1931—Brighter business outlook is an encouraging factor in the Philadelphia trade, as the dealers are slowly recovering from the slump which has prevailed since the first of the year. While the fine paper division has been enjoying a fair volume of orders among mill representatives and large consumers, there is seasonal activity in the lines of specialties that keeps the distributors fairly well occupied with small lot orders. Wrapping paper dealers are most encouraged, as their business seems to grow more in line with the recovery.

While business grows apace among the distributors of wrapping paper, there is a tendency for prices towards steadiness and with that phase of the paper market less disturbing the trade is encouraged to look ahead with hopefulness towards the future. Krafts and bags, the two most disturbing lines involved in the price warfare have taken a jump in values and other grades of paper are likewise expected to show similar price revisions in the near future.

Manufacturers of all lines of paper in this territory look for continuation of present schedule of operation for several months, with gradual increases in late summer, as more confidence in the business outlook is assured. The majority of the mills are on a five day schedule, with a few on full time.

Specialties in fine papers, such as high grade writings, bonds, social and wedding stocks, and some of the better grades of cover paper, are in demand on a broader scale, though lacking normal shipments. Mill representatives continue to report good contracts for bulkier book papers and some of the coated grades. Twines are much upset, and at the lowest values for all times.

Panama City Mills Nearly Ready

At Panama City the new mill now under construction of machinery and equipment, will soon be ready for operation and will establish a record production of 500 tons of kraft per day and 1,000 feet of paper per minute. The machine is 235 inches wide—another record in width.

International Brings Out New Grades

At the Mobile mills of the International Paper Company, Mr. Garrett found that the company will soon be ready to market a specially treated butchers kraft. He was shown over the mills by Mr. Friend and taken through the printing, bag and paper manufacturing departments. The present machine has a width of 176 inches and high speed production, which is the highest to date, but will be outclassed when new Panama City mill gets under way.

S. S. Garrett Returns From Southern Tour

Confidence in the future of the paper industry and preparation for revival of demand were outstanding features evident to Sylvester S. Garrett, head of the wrapping paper firm bearing his name, scion of one of the most prominent of pioneer paper manufacturing families in Pennsylvania, and an astute student of the paper market, in his tour of the southern kraft mills of the International Paper Company. Returning from a three weeks tour of the south and a particularly interesting inspection of the Mobile mills of the International company and a survey of the mills now nearing completion at Panama City, St. Andrew Bay, Fla., he was much enthused over the marvels of paper making equipment and the production schedule which modern machinery is prepared to turn out when present depression has passed.

Tours Gulf of Mexico

While sailing the Gulf of Mexico, Mr. Garrett encountered a miniature hurricane and his steamer was obliged to batter her way through the center of a water spout that prevails in stormy seas in the tropics. He toured New Orleans and Bogalusa paper mills, then journeyed to Tampa and along the coast points. During his trip he was accompanied by his son, William N. Garrett.

Paper and Cordage Association Meets

Philadelphia business and industrial opportunities and the building of these through the work of the Philadelphia Progress Association, an organization formed under municipal direction, will be discussed at the meeting of the Paper and Cordage Association to be held Friday at the Adelphia Hotel. The luncheon meeting, with President William Edkin, Keystone Cordage Company, presiding, will be addressed by Col. George W. Hicks, of the Chamber of Commerce, and of the Business Progress Association, who substituted for R. H. Horton, executive director of that organization, formerly scheduled speaker who is unable to attend. There will be a review of Philadelphia industries, including twine and paper manufacturing concerns, with statistics of production and a survey presented of the Port of Philadelphia and its shipping advantages. Announcement will be made of the coming outing and golfing tournament for the championship cup of the association by Chairman of Entertainment Committee H. N. Newell, American Manufacturing Company. The outing is to be held in June.

Kennedy Car Liner & Bag Co. Moves

Quaker City offices of the Kennedy Car Liner and Bag Company, Shelbyville, Ind., manufacturers of car liner papers and bags of specially made papers and unusual types, have been removed to 121 Barrington Road, Upper Darby, Pa. Charles Tucker, who is manager of the Philadelphia offices, is now booking heavier shipments of the new lines of moth-proof bags made by the Kennedy company. They are the Ex-L-O, of red cedar and white lined for delicate or bright colored fabrics and of high grade red cedar paper cover, and the Kendex of red cedar, a popular priced bag. The former city offices at 4625 Sansom street have been abandoned.

Nobert A. Considine at Strathmore Mills

President Norbert A. Considine, Paper House of Pennsylvania, 32 North 6th street, journeyed to the Strathmore Paper Company's mills at Mittineague, following his return from an Easter vacation.

John Jacobs Inherits Millions

The bulk of the $3,850,000 estate of Mrs. Carrie Jacobs Brown, who died recently in her home in Massilon, Ohio,

Jones

A NAME THAT HAS WON A WORLD-WIDE REPUTATION THROUGH 75 YEARS DEVOTED TO PAPER-MAKING PROGRESS

PAPER-MAKING MACHINERY E.D. JONES & SONS COMPANY ESTABLISHED 1855 PITTSFIELD, MASS.

DESCRIPTIVE BULLETIN MAILED UPON REQUEST

JONES GREY-LOCK ASSEMBLED JORDAN FILLING

Filling nested for shipment

Furnished in bronze or steel and in any type. Installed in a fraction of the time required for the usual type of filling. The Jones reputation is international.

E. D. JONES & SONS COMPANY

PITTSFIELD . . . . MASSACHUSETTS

BUILDERS OF HIGH-GRADE MACHINERY FOR PAPER MILLS

is to go to her nephew, John Jacobs, who lives in Bryn Mawr, and is president and treasurer of the Philadelphia Paper Manufacturing Company, with offices in the Atlantic Building, manufacturers of special shipping containers used by the oil, paint and other industries, and of shipping containers for shipment of alcohol and liquors which cannot be tampered with, and answer to requirements of the Prohibition Commission. Mr. Jacobs was former president of the old Philadelphia Paper Manufacturing Company, now the Container Corporation of America, and was head of the company owning the mills and container plants now owned and operated by the corporation in Manyunk. It was stated that Mrs. Brown desired to make her nephew "one of the richest men in the world" and to that end gave him $2,000,000 several years ago in the hopes that wealthy relatives would follow example. Mr. Jacobs and Mrs. Jacobs are now in the West settling the estate.

Franklin Shrine Will Attract Students

When completed, the Franklin Institute Museum, which is to be devoted to permanent exhibits of the paper manufacturing and graphic arts industries and other industrial enterprises, will provide facilities for post-graduate study equal to any in the world. This phase of the permanent exhibits, which will include a complete paper making plant and relics of early paper manufacturing and printing arts in America, was expounded last week by former Philadelphia City Statistician E. J. Cattell, in his talk at the Penn Athletic Club. He stated that these permanent and miniature operating exhibits of various industrial enterprises will attract students from all parts of the world who will take up residence here while engaged in obsorbing practical knowledge of industry and commerce. The Museum is to be erected on the Parkway at a cost of $6,000,000 and will contain exhibits that will be the most complete and comprehensive in their respective fields at considerable cost. Plans are under way to engage the active participation of paper manufacturers in providing for the paper exhibits.

Central Paper & Twine Co.'s Bankruptcy

Following its involuntary bankruptcy, the Central Paper and Twine Company, 826 South 5th street, through the head of the firm, Seide Seidel, filed its report of liabilities as $11,614 and assets as $291.

Scott Paper Co.'s Earnings

Scott Paper Company reports for the quarter ended March 29, 1931, net profit of $303,974, equal, after preferred dividends, to $1.63 per share on 162,253 shares of common stock outstanding. This compares with net profit of $284,565 in the first quarter of last year. Net sales for the first quarter of this year amounted to $2,429,878, against $2,274,765 in the corresponding period of 1930.

C. H. Morian at Cherry River Mills

Clark H. Morian, vice president and sales manager of the Cherry River Paper Company, with executive offices in the Pennsylvania Building, is now in the southern territory touring the mills of that company at Richmond, Va. The Cherry River Company has been operating on full time since the drought relief enabled the acquisition of full water supply.

J. Gibson McIlvain Co. Exhibits

The J. Gibson McIlvain Company, for more than a century manufacturers of lumber and converters of its products, and owners of the paper board mills operated as the Downingtown Paper Company, Downingtown, Pa., is represented in the industrial exhibits of prominence sponsored by Gimbel Bros. Department Store. An entire window is given over to the display of the McIlvain company.

Stanley Paper Stock Co. Moves

The Stanley Paper Stock Company, Inc., has moved its office and warehouse from 418 South Front street to 324-326 South Delaware Avenue.

Gould Paper Co. Makes Good Record

[FROM OUR REGULAR CORRESPONDENT]

LYONS FALLS, N. Y., April 20, 1931—The Gould Paper Company has just celebrated its 37th anniversary and from a small beginning in 1894 it has grown to a commanding position as a leading producer of newsprint. The company was founded by the late G. H. P. Gould, father of the present president and treasurer, H. P. Gould. It is one of the few concerns which now depends on its own pulp wood supply and the purchase of extensive timber holdings in recent years now gives it sole possession of over 130,000 acres in the Adirondack Mts. The pulpwood from this tract is transported by rail and floated down the Moose River to the mills in this village yearly and a large force of lumberjacks are employed steadily.

Besides the hydro-electric power owned by the company it is also learned that direct water power is used in the operation of a number of the grinders. There are eleven grinders in operation which supply pulp to the mill through a pipe line by gravity while the sulphite mill with three digestors has a capacity of forty tons daily. Three machines are also used daily in production of news print estimated at about 100 tons. The news print is regarded as the principal product and the annual output is said to be about 30,000 tons. In addition to the news print about 2,000 tons of heavy manilas and wrappers are turned out at the Port Leyden branch on the Black River. Over 200 hands are finding steady employment with the company.

Bates Valve to Lease New Orleans Plant

The Bates Valve Bag Company, with thirteen plants now in operation, has arranged to lease a new $200,000 factory in New Orleans, La., from the Hortman-Salmen Company, Inc., of that city. The plant is to be erected immediately and is expected to be ready for operation on August 15 next. The new plant will be located on South Jefferson Davis Parkway and the New Basin Canal. A long-term lease has been taken by the company on 25,000 square feet of ground owned by the Hortman-Salmen Company, Inc.

The factory will employ between forty and sixty persons, and will manufacture the Bates valve bag, a shipping container used for heavy bulk commodities such as plaster, fertilizer, cement, and lime. The plant will have a capacity of approximately 12,000 tons of finished products annually. Distribution of the commodity will be made through eleven Southern states, extending from the Carolinas through Texas and Oklahoma.

Tissue Co. To Operate on Coast

PORTLAND, Ore., April 18, 1931.—The Tissue company of Saugerties, N. Y. has entered into a contract with the Crown-Zellerbach company to supply raw paper material from its plant at Camas, Wash., and has leased a building on the property of the Crown-Willamette company at that place where machinery is being installed and where operations will be started about June 1. Western distribution will be made from this point.

The Tissue company has no connection with the Crown-Zellerbach interests except as a tenant on the plant site at Camas, according to Harold L. Zellerbach.

Improve the quality and you can increase your business

IF you could make paper just a little better in quality, you could take orders that you cannot handle now.

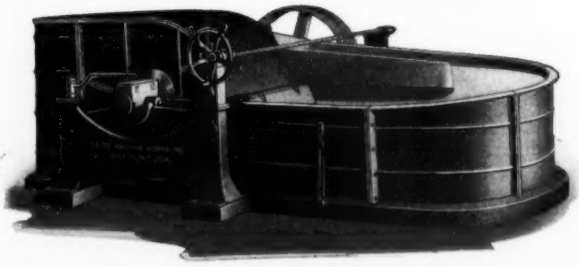
There is no doubt the trend is toward better quality, and you must look to your Beaters when you begin to improve your sheet.

Perhaps *one more beater* would accomplish that for you.

"For lack of a nail the shoe was lost;
For lack of a shoe the horse was lost;
For lack of a horse the battle was lost."

And now—For lack of a Beater is your mill to be lost?

MAIL THE COUPON TODAY—



DILTS MACHINE WORKS, Inc.
Fulton, New York

Gentlemen: Without obligating ourselves, we would like to discuss with your representatives, certain details pertaining to our Beater Room.

Company Name .....

Address .....

-Dilts-
MACHINE WORKS Inc. FULTON, N.Y.
"Your Paper Is Made In Your Beaters"

Paper Makers Safety Association Meets

Organization Gathers at King Edward Hotel, Toronto and Elects E. Howard Smith, of the Howard Smith Paper Mills President for the Ensuing Year—George Carruthers, President of the Interlake Tissue Mills, A. P. Costigane, Secretary, and Others Speak

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 20, 1931—That accident compensation in the pulp and paper industry in Ontario is heavier than fire insurance charges on various mills was revealed during a discussion at the annual meeting of the Ontario Pulp and Paper Makers' Safety Association, following a dinner at the King Edward Hotel on April 15, which was attended by paper mill executives from practically every paper plant in the province. Closer co-operation with the Workmen's Compensation Board, the Safety Association, various other agencies and within the industry itself was urged by various delegates, and George Carruthers, president of the Interlake Tissue Mills, the chief speaker at the gathering stressed the duty of paper mill companies on humanitarian as well as economic grounds in the line of keeping down compensation rates and accident records. It was suggested by Mr. Carruthers that the employees themselves might increase their sense of responsibility and offer a greater measure of co-operation in accident prevention in the mills.

Reduction in Non-Fatal Accidents

A. P. Costigane, secretary-engineer of the organization, in his annual statement, said that for thirteen years the association had been working in an endeavor to save money to the employers and employees of the industry, because, when boiled down, it becomes apparent that money spent in compensation has of necessity to be included in the overhead expenses of any company, and so makes the product so much more expensive, and so much more difficult to sell in the world's markets. "It is therefore incumbent on all employees to help to cut down this cost," said Mr. Costigane, "so that markets may be secured and by so doing help to secure their own tenure of employment. This does not in any way detract from the liability of the employer. We hold no brief for either employer or employee, but we do endeavor to view the industry from a neutral viewpoint.

"It is a matter of partial congratulation that while news print mills have suffered from the prevailing depression, the specialty mills have gone ahead and have made profits, judging from published reports, with possibly one or two exceptions. Nevertheless the specialty mills today are in much better position than their news print brethren.

"The woods department conditions have not been as good as the mill situation and we are afraid this department will have to face increased rates for the current year. The total number of non-fatal accidents during 1930, according to our records, is 926 in comparison with 1,242 for 1929, these figures including both compensatable and non-compensatable cases as heretofore. This means there has been a reduction in non-fatal accidents of 25.4 per cent, but at the same time the total number of employees was reduced from 10,097 to 9,257 in 1930, or in other words a reduction of 8.3 per cent. So that even allowing for decreased employment the improvement in frequency is definitely marked. For 1929 the time loss was 17,853 days; for 1930, 15,455.5 days, equal to a reduction of 13.4. Taken by and large the situation in respect to non-fatal accidents is satisfactory in that it has been progressive."

Another side to the picture was shown in the report when it was mentioned that fatal accidents in the pulp and paper mills of the province during 1930 numbered seven as against six recorded the year before. The statement of the secretary-engineer included a report on the safety competition for trophies presented by the association. The winners of the shields and flags in class A were the Abitibi Power and Paper Company, Sturgeon Falls, with a record of 9 non-fatal accidents; runners-up, Lincoln Pulp and Paper Company, with a record of 19 non-fatal accidents; Class B., winners, Provincial Paper, Ltd., Mille Roches, with record of 2 non-fatal accidents; runners-up, Northern Ontario Power Company, pulp department, Hawkesbury, with a record of three non-fatal accidents. First Aid contests were announced as follows: winners, Spruce Falls Pulp and Paper Company, with a score of 98 per cent; runners-up, Provincial Paper, Ltd., Georgetown, score 96.

Howard Smith the New President

The board of directors was elected as follows: E. Howard Smith, Howard Smith Paper Mills; C. B. Thorne, Canadian International Paper Company, Hawkesbury; George Carruthers, Interlake Tissue Mills, Thorold; George W. Pauline, Alliance Paper Mills, Merritton; George Barber, Provincial Paper, Ltd.; A. T. Brown, E. Pullan, Ltd.; J. E. Patterson, Abitibi Power and Paper Company; J. H. Albert, J. R. Booth Company, Ottawa; D. McLeod, Kenora Paper Mills; Ben Avery, Abitibi Power and Paper Company; N. E. Wainwright, Don Valley Paper Mills; E. S. Noble, Spruce Falls Pulp and Paper Company; T. W. Silver, Abitibi Power and Paper Company, Iroquois Falls; John Ball, Beaver Wood Fibre Company, Thorold; D. S. McLeod, Ontario Paper Company, Thorold; J. S. Wilson, Dryden Pulp and Paper Company. At the conclusion of the general meeting the directors met and appointed E. Howard Smith, president, and A. T. Brown, vice-president, with A. P. Costigane as secretary-engineer.

Parchment Imports in Japan

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 22, 1931—Japanese imports of imitation parchment paper during January totaled 413,333 pounds, valued at $36,563 according to information reaching the Department of Commerce. Over one half of these receipts, specifically 234,933 pounds, came from Germany, while Sweden and Norway supplied the bulk of the remaining shipments. Small amounts were also credited to the United Kingdom, Belgium, and the Netherlands, but none is recorded as coming from the United States.

Rainier at Shelton Reopens

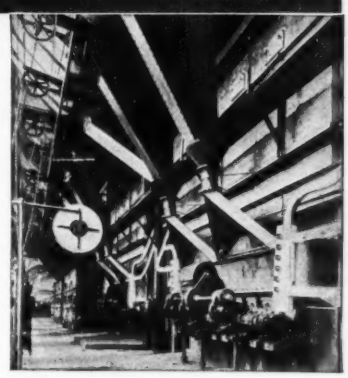
[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., April 18, 1931.—The plant of the Rainier Pulp & Paper company at Shelton, Wash., which has been closed pending litigation connected with stream pollution, began operations again April 17, following satisfactory settlement of complaints filed by owners of oyster beds.

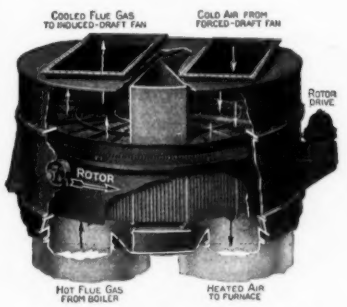
KALAMAZOO reduces per-ton production costs substantially by utilizing LJUNGSTROM PREHEATERS

THE Kalamazoo (Mich.) Vegetable Parchment Company operates two 1000-hp. stoker-fired boilers, each equipped with a Ljungstrom Air Preheater having 37,200 sq. ft. of heating surface. At their maximum load, 300 per cent of rating, the boilers alone (fired with cold combustion air) operate at an efficiency of 76.9 per cent. With preheaters in service to reduce the stack temperature from 495 deg. fahr. to 255 deg., and preheat the combustion air from 80 deg. to 355 deg., the efficiency is raised to 84 per cent, and a fuel saving of 9 per cent is effected.

Kalamazoo is but one of a long list of mills where Ljungstrom Preheaters are saving 8 to 15 per cent on former fuel bills, or increasing capacity 10 to 15 per cent without the addition of more boilers and the firing of more fuel.



Plant and boilers of Kalamazoo Vegetable Parchment Co.



Type CANX for Use with Independent Forced-draft and Induced-draft Fans.

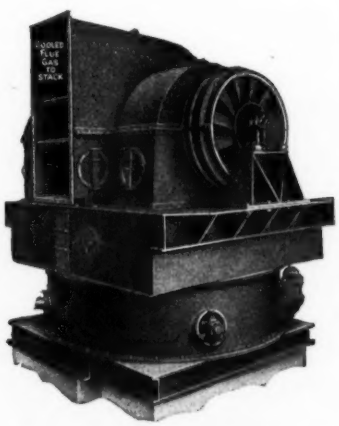
Operated with rack and pinion drive, and has a center thrust bearing in the cold air side of the top housing. For boiler units of 1000 hp. and over.

The Ljungstrom Preheater, with its continuous regenerative counterflow principle, quick-acting heating surface and very low operating costs, is capable of recovering 70 per cent of the stack loss and gives *high commercial value* to all this recovered heat.

This Preheater is *the only one* that can be built small enough and bought at a price which permits complete repayment of installation cost within one or two years. Thereafter, with *all fixed charges wiped out and at negligible operating expense,* the Ljungstrom Preheater does the equivalent work of costless extra boiler and furnace capacity, or makes almost complete *net cash* saving of the reduction in fuel consumption and firing labor.

Active mills seeking practical ways to combat keen competition and diminish profits would find it to their advantage to let our Engineers check existing power conditions (no obligation incurred) and explain the possibilities of high waste heat recovery and preheated combustion air. Ljungstrom guarantees are binding and based upon dollars-and-cents economy improvement. Fulfillment is proven by past performances under similar conditions, and we gladly submit references.

Write for literature and let us figure with you on new construction or remodeling.



Type CAN Ljungstrom Air Preheater with Integral Forced-draft and Induced-draft Fans

The scroll fan housings in connection with axial fan wheels greatly increase fan capacity and decrease operating power requirements.

Built also in vertical and horizontal types for use with independent forced-draft and induced-draft fans. The horizontal type handles flue gas temperatures up to 1800 deg. fahr.

Over 800,000 boiler hp. of Ljungstrom Air Preheaters are in service in the U. S. A.

THE AIR PREHEATER CORPORATION

40 E. 34th St., New York

Works: Wellsville, N. Y.; Agents in

Boston	Cleveland	Pittsburgh	Kansas City	Ft. Worth	Tacoma
Buffalo	Charlotte	Minneapolis	Houston	Denver	Spokane
Chicago	Detroit	St. Louis	Salt Lake City	Los Angeles	Portland
Indianapolis	Philadelphia	Cincinnati	New Orleans	San Francisco	Seattle

Canada: Lammers & Maase, Ltd., Montreal and Vancouver

Ljungström AIR PREHEATER

REG. U.S. PAT. OFF.

CONTINUOUS REGENERATIVE COUNTERFLOW

The Old Timer Gets Modernized

By Joseph H. Wallace[1]

Some of you have been reading the Old Timer's reminiscenses in the PAPER TRADE JOURNAL. I know because you have written me nice letters. Thanks.

During the past five years my diaries tell a story of trying to operate paper mills and sell their products to unwilling consumers suffering from indigestion. I take off my hat to you fellows whose lot it is to take the mills that these engineers design and build, and make them pay dividends in times like these. I shall not tell the harrowing details of these last few years for "we girls all have our own troubles."

Beginning Life Anew

So after mature deliberation I decided to begin life anew, and as the field that one hasn't foraged always looks the greenest to a jackass, the pulp and paper mill machinery game has won the prize (?) of my membership.

Seriously, the machinery end has always been "my yen" and with 30 years in the paper trade I ought at least to know some things that *wont work* and by elimination come to some good ideas. Ain't it so?

I renewed my mental processes by further examination of those diaries of the past forty years and wrote to my old friend, Herman L. Kutter, president of the Black-Clawson Company, that I had decided to honor his organization by joining it as an apprentice, office boy or what have you. And he fell, so here we are at the beginning of this year of our Lord 1931. Are we enjoying it? "I'll say we are!" It's just like returning to school as a freshman. Experiences as buyer of pulp and paper mill machinery and appraiser of many mills had convinced me of the high standard of quality of B-C machinery. Hence my choice.

Now we want to tell our friends some of the things we are learning in our effort to get up to date.

First, the changes in machine design and shop practice since the close of the war have made equipment of prewar vintage obsolete. Recent estimates of the cost of duplicating a paper machine built less than ten years ago and of a 1931 model of the same size shows an increase of nearly 100 per cent in the cost of the modern model over the cost of the model of ten years ago, *if they were both to be built today*. The difference is justified by the improvements of the past decade.

The paper machine of 1931 is a Leviathan with the accuracy of a watch.

Among the Outstanding Improvements

Among the outstanding improvements of today I have been most impressed with the following:

In a mill recently visited, two machines recently improved have spiral bevel gear drives. The old mortise gear drives are still operating on other machines in the same room and shake you violently. This mill has recently ordered spiral bevel gear drives for the remaining machines.

I wish all you paper makers could see the Maag Gear Generating Machine in the B-C shops. In standard gears the sliding action is concentrated on a short portion of the tooth—in the Maag gears a decreased amount of sliding is distributed over practically the whole tooth profile.

The Hypoid gear drive is available for situations requiring minimum space. The pinion being off center allows the pinion shaft to extend across the stand and be supported by an outerbearing. Extra heavy Timken bearings with continuous lubrication preserve alignment while dynamic balancing of parts eliminates vibration in all these new stands. Hypoid dryer drives are now available. They consist of Hypoid gears on each dryer journal. They are small compared with the spur gears used in old days and leave the back side open for ventilation. A shaft runs the length of each dryer section for each deck of dryers. These are driven by silent chains. Gear cases completely enclose these drives preventing oil leakage.

These and other improvements have resulted in a standard mechanical drive that is suitable for all types of paper machines. It is less expensive and easily understood and managed by the operator.

2. The balancing of breast rolls, felt rolls, dryers—in fact all rolls—is now done in a precise manner at their respective critical speeds. This is an eye opener to an old timer who thought static balance was sufficient.

3. The shaking breast roll is independent of the machine. It runs on Timken bearings and is mounted on oscilating supports which assure a level shake. It saves table roll bearings and permits shaking speeds necessary for formation at higher speed of wire.

4. Wet ends are now equipped throughout with Timken bearings. They reduce power and maintenance by preserving absolute alignment. They provide adjustment at time of installations and normally require no further attention until after a long period of service. Timkens are now installed on Cylinder molds, couch rolls, squeeze rolls, primary and main press rolls and felt rolls. Wentz "No-Deckle" equipment save the width of sheet lost by the old rubber deckles.

5. The hydraulic lift on top press rolls saves time and energy and assures even lifting and lowering of the roll. Timken equipped top press rolls are now essential. With the "removable block" it is easy to change bottom press rolls. An automatic adjustable doctor of stainless steel and a broke conveyor now removes wet broke from the press as fast as formed.

6. Vertical driers now appear to be standard practice on Cylinder machines and many recent installations have been made on Fourdriniers.

We wouldn't be surprised to see Kraft, bond, book and news paper made on Vertical Driers without felts. Tests have shown that paper drying on Vertical Driers is uniformly dry across the machine. Increase in drying capacity in the same floor space is accompanied by actual increased capacity per dryer.

A Sheahan Carrier is now usually included. At high speeds it saves broke quantity and on lower speeds it saves on quality.

Things Have Changed

The old practice of clamping a paper machine together—the slotted bases and sledge hammer adjustments of our early days— the noisy vibrating drive gears and unbalanced rolls—are gone. Verily things have changed.

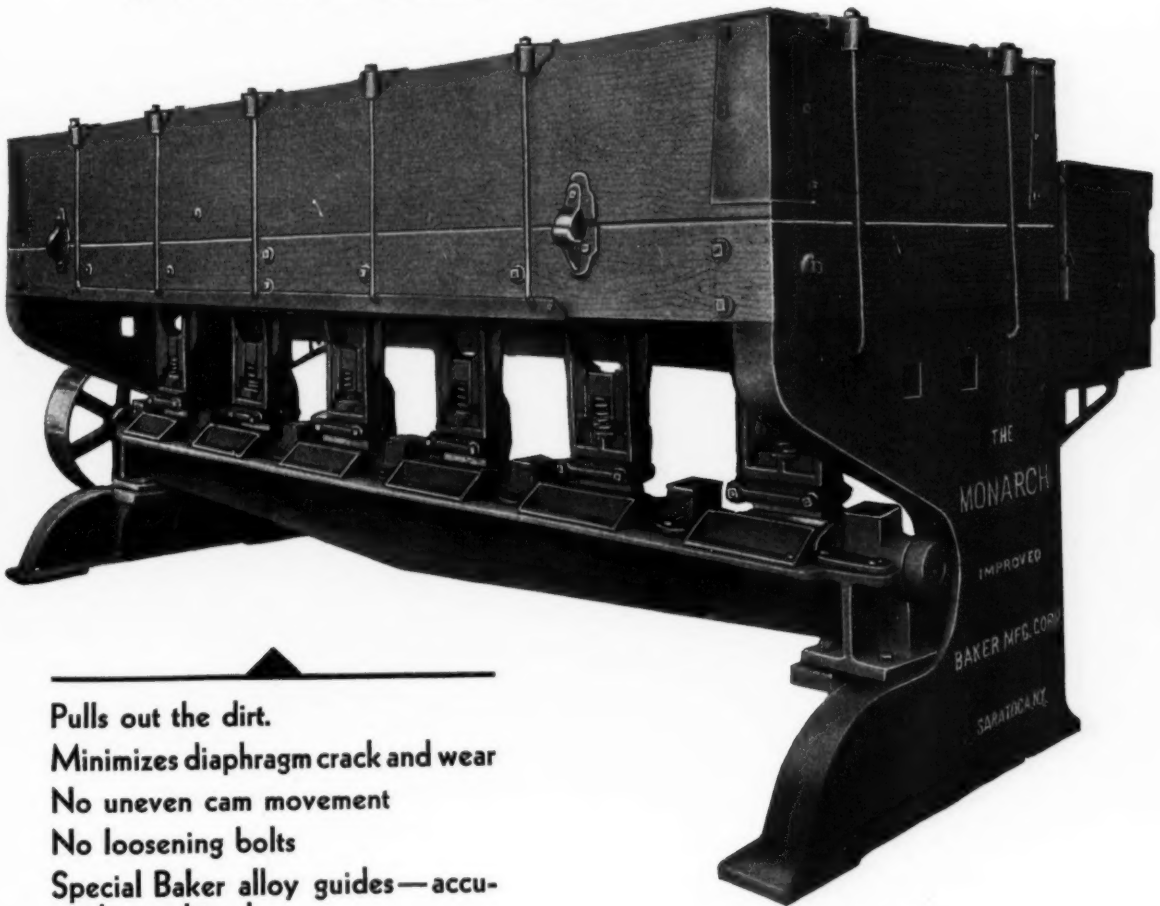
On the wall of National Cash Register factory at Dayton, Ohio is a motto "We progress by change." That's good enough for any one. I'm awake too!

[1] Engineer, Black-Clawson Co., Hamilton, Ohio. Member Am. Soc. Civil Engineers, Am. Soc. Mechanical Engineers, Engineering Institute of Canada.

If It's BAKERMADE—Eventually it Costs Less

THE NEW MONARCH SCREEN

Monarch Screens have been in constant service for 20 years without replacement of any guiding part . . . and are still producing satisfactorily. Recent refinements of design bring you the assurance of a still higher standard of service at the lowest possible ultimate cost.



Pulls out the dirt.
Minimizes diaphragm crack and wear
No uneven cam movement
No loosening bolts
Special Baker alloy guides—accurately machined
Plunger movement unfailingly even
Shoe held firmly; cannot move sidewise
Block troubles unknown

Write for Details

THE BAKER CORPORATION

Saratoga Springs, N. Y.

25

The NEW MONARCH Runs Like a Sewing Machine

Unfair Competition

What IS unfair competition according to law? Jesse H. Neal, general manager of the American Paper and Pulp association says "at last the Federal Trade Commission has set its hand and seal upon ten rules of business practices which according to reports from Washington may be regarded as model rules for all industries." They are as follows:

RULE No. 1:

The secret payment or allowance of rebates, refunds, commissions, or unearned discounts, whether in the form of money or otherwise or secretly extending to certain purchasers special services or privileges not extended to all purchasers, under like terms and conditions, with the intent and with the effect of injuring a competitor and where the effect may be to substantially lessen competition or tend to creat a monopoly or to unreasonably restrain trade, is an unfair trade practice.

RULE No. 2:

It is an unfair trade practice for any person engaged in interstate commerce, in the course of such commerce, either directly or indirectly, to discriminate in price between different purchasers of commodities, where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly in any line of commerce; provided, that nothng herein contained shall prevent discrimination in price between purchasers of the same class on account of differences in the grade, quality or quantity of the commodity sold, or that makes only due allowance for differences in the cost of selling or transportation, or discrimination in price in the same or different communities made in good faith to meet competition; and, provided further, that nothing herein contained shall prevent persons engaged in selling the products of this industry in commerce, from selecting their own customers in bona fide transactions and not in restraint of trade.

RULE No. 3:

Maliciously inducing or attempting to induce the breach of existing contracts between competitors and their customers by any false or deceptive means whatsoever, or interfering with or obstructing the performance of any such contractual duties or services by any such means, with the purpose and effect of unduly hampering, injuring, or embarassing competitors in their businesses, is an unfair trade practice.

RULE No. 4:

The selling of goods below cost with the intent and with the effect of injuring a competitor and where the effect may be to substantially lessen competition or tend to create a monopoly or to unreasonably restrain trade, is an unfair trade practice.

RULE No. 5:

Directly or indirectly to give or permit to be given or offer to give money or anything of value to agents, employees, or representatives of customers or prospective customers or to agents, employees, or representatives of competitors' customers or prospective customers, without knowledge of their employers or principals, as an inducement to influence their employers or principals to purchase industry products from the maker of such gift or offer, or to influence such employers or principals to refrain from dealing or contracting to deal with competitors, is an unfair practice.

RULE No. 6:

The defamation of competitors by falsely imputing to them dishonorable conduct, inability to perform contracts, questionable credit standing, or by other false representations, or the false disparagement of the trade or quality of their goods, with the tendency and capacity to mislead or deceive purchasers or prospective purchasers, is an unfair trade practice.

RULE No. 7:

Maliciously enticing away the employes of competitors with the purpose and effect of unduly hampering, injuring or embarrasssing competitors in their businesses is an unfair trade practice.

RULE No. 8:

The practice of shipping or delivering products which do not conform to the samples submitted or representations made prior to securing the orders, without the consent of the purchasers to such substitutions, and with the effect of deceiving or misleading purchasers, is an unfair trade practice.

RULE No. 9:

The making or causing or permitting to be made or published any false, untrue, or deceptive statement by way of advertisement or otherwise concerning the grade, quality, quantity, substance, character, nature, origin, size or preparation of any product of the industry having the tendency and capacity to mislead or deceive purchasers or prospective purchasers, is an unfair trade practice.

RULE No. 10:

To ship products of the Trunk, Luggage and Brief Case Industry on consignment with the intent and with the effect of injuring a competitor, and where the effect may be to substantially lessen competition or tend to create a monopoly or to unreasonably restrain trade, is an unfair trade practice.

Indianapolis Demand Improves

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., April 20, 1931.—The paper business in this section continues to expand somewhat, but it is spotty with some lines apparently headed for some real business and others just barely holding their own with last year. In the specialty field, business is picking up and with the coming of real spring weather this week the demand was quickened materially. Such items as tissue napkins, paper plates, cups and all such merchandise are selling much more rapidly, most of the movement now going to dealers who find their stocks very low and the summer season almost upon them.

A slight increase is seen during the present week for building papers. The increase is not as large as most of the jobbers expected, but it is becoming well developed and most believe it presages a better spring trade than last year.

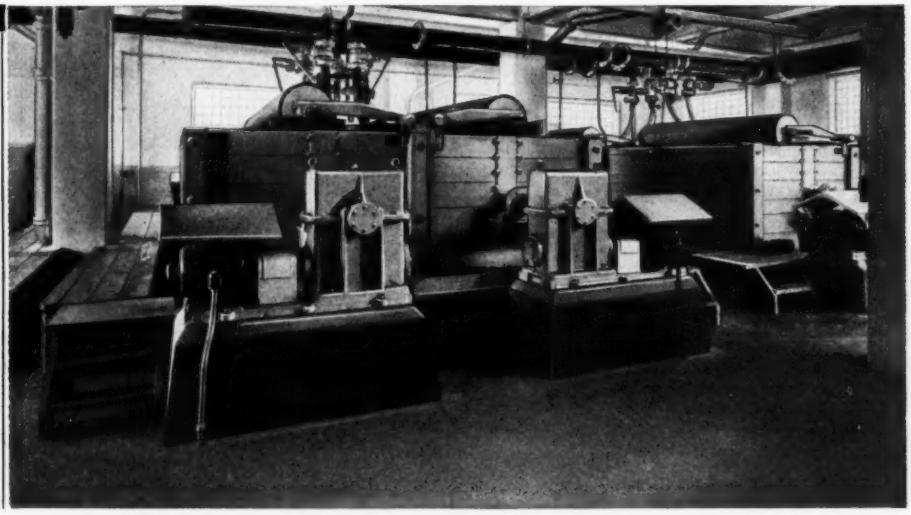
Demand for cellophane and similar merchandise is holding its own and it is certain the first half year this year will show an increase in volume over the same period last year.

Fine papers show a little more life with the spring advertising season at its height. A fair demand is seen also for print paper. The demand would be greater if the same proportion of news and advertising still were carried. Several of the larger papers have curtailed their percentage of news in an effort to squeeze out some extra profit in a saving in print paper.

Greylock Bond Agent Appointed

The Cauthorne Paper Company of Richmond, Va., has been appointed an agent in that city and vicinity for Greylock Bond, the 75 per cent white rag paper manufactured by the L. L. Brown Paper Company, located at Adams, Mass.

"The Valley DECKER



. . . reduced fibre loss 12# per 1000 Gal."

"The Valley Decker reduced fibre loss 12# per 1000 gallons," reports a mill who recently installed a Valley Decker. A few days ago an order was received for another machine.

Valley Deckers are more than just *deckers*. Their design and construction are the result of sound engineering principles acquired through years of intimate contact with practical mill requirements. Conditions vary in every mill. Rarely are the decker requirements of two mills alike. Yet, Valley experience provides the intelligent application of various modifications which are necessary to solve the individual "kinks" of decker operation in different mills.

Valley Deckers are made in various sizes and designs to suit any special requirements. Write the Valley Iron Works Company, Appleton, Wisconsin, for complete details.

VALLEY

Equipment for Paper and Pulp Mills

Plant: Appleton, Wis.
New York Office: 350 Madison Ave.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Foresters Meet at Spokane

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., April 18, 1931—A. W. Laird of Potlatch, Idaho, was elected president of the Western Forestry and Conservation association at the annual conference held at Spokane late last month. C. A. Barton of Boise was elected vice-president for Idaho; W. C. Lubrecht of Missoula for Montana; C. B. Sanderson of Seattle for Washington; C. G. McLeod of Portland for Oregon, and C. R. Johnson of San Francisco for California. W. R. Ballard of Montana and J. P. McGoldrick of Idaho were made trustees.

The convention was attended by 125 foresters, private timber owners, engineers and government men. The discussions were concerned with tree diseases, pests, fires, control, reforestration, yield and effective logging processes.

"Fires are more spectacular but insects and diseases are formidable enemies of forests," said F. P. Keen, United States entomologist. The western pine beetle has taken as high as 2-½ per cent of the stand of western pine annually in parts of California and southern Oregon for the past ten years, and Idaho white pine is now threatened by the same fate.

The next step in the logical development of private forestry is forest sanitation—that is, the systematic reduction of disease, several speakers indicated. Such means of extermination should become operative before it becomes useless to try to combat the attacks.

Dr. E. P. Meinecke of the United States Bureau of Plant Industry stated that the principle of protection of present timber capital against ravages is now firmly accepted and the next logical step is a consistent application of what is already known.

During last year $150,000 was spent in control work with a noticeable reduction in losses and it is now necessary to create a national fund to control all present diseases for if the work is neglected until ravages are well under way the effort and expense not only become exorbitant but also less effective in permanent results, was the general advice of various speakers.

W. B. Osborne of the United State Forest Service office in Portland presented information on latest fire fighting equipment. He said that the Northwest states and California have 1000 improved lookout stations now occupied, provided with telephones and special lenses for piercing fog. He explained that a gas may be developed which could be dropped to smother fires.

A. G. Corbitt of Scotia, California, told of methods for increasing the effectiveness of water where this is scarce. Potassium carbonate mixed with water doubles its fire-fighting qualities he said.

F. L. Outterson Married

HOLYOKE, Mass., April 20, 1931—Frederick L. Outterson of Maple street, son of the late C. A. Outterson for many years superintendent of the Crocker-McElwain Company and Mrs. Mary Eleanor Tisdale were married last week at the First Presbyterian church. Rev. Dr. John Alison officiating. The bride has been employed at the Whiting Paper Company. The groom has held several positions in the paper manufacturing field. He started in the paper business with his father in the old No. 3 Riverside Paper Company, and later went to Crocker-McElwain Company, as assistant superintendent, remaining there for eight years. He had been superintendent at the Mittineague Paper Company, the Crane Mill at Westfield and the Oakland Division of the American Writing Paper Company in Manchester, Conn.

Acquire Latrobe Paper Mill

LATROBE, Pa., April 20, 1931.—The Latrobe Chamber of Commerce gave out the following statement last week:

"The Latrobe Chamber of Commerce has just been informed that the Barrett Company has accepted the terms offered by the Niagara Paper Mills Corporation for the purchase of the Latrobe Paper Plant at Kingston. The details of the contract and purchase price have not been made public as yet. The Niagara Paper Mill Company will make roofing felt, the same product that was manufactured by the Peters Paper Company and the Barrett Company up to about 1926.

"The Niagara Paper Mill Corporation will also operate two other plants. The one at Lockport, N. Y., has been in business for 42 years and manufactures a highly technical grade of felt paper. They will also operate the Si-Fo Products Company plant at North Tonawanda, N. Y., which produces finished roofing. It is said that the steady operation of the Latrobe mill will be practically guaranteed, about 40 per cent of the output going to one nationally known concern, and practically all the remainder will be consumed by their own plant at Tonawanda.

"The Niagara Corporation will spend approximately $75,000 in improving the Latrobe mill. The operation will be electrified throughout, using steam for drying purposes only. Individual motors will be placed on all beaters and machines, estimates having already been made by the Westinghouse Electric and Manufacturing Company The plant when in operation will employ from 100 to 125 men, however, it was not stated just how soon their improvements would be ready to operate.

"The Niagara Corporation is almost 50 years old, and has continuously been under the supervision of George E. Green, the president, and his son, Henry. By acquiring the Latrobe mill, they will be able to produce themselves the raw material for the Si-Fo plant at North Tonawanda. Mr. Green has spent several days in the past four or five months in Latrobe regarding various matters in connection with the Latrobe plant.

"It should also be stated that the freight rate which at one time played an important part in the operation of this mill, has been very satisfactorily adjusted by the officials of the Ligonier Valley Railroad and the Pennsylvania Railroad, so that this matter for the future has been definitely settled."

Glassine Bag Simplification

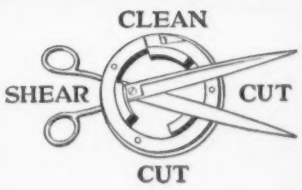
A general conference of representatives of the industry on the simplification of sizes of flat glassine bags will be held under the auspices of the division of simplified practice of the National Bureau of Standards, in Room 942, Woolworth Building, 233 Broadway, New York, N. Y., at 10:00 A. M., on Tuesday, April 28, 1931, according to an announcement by that Bureau.

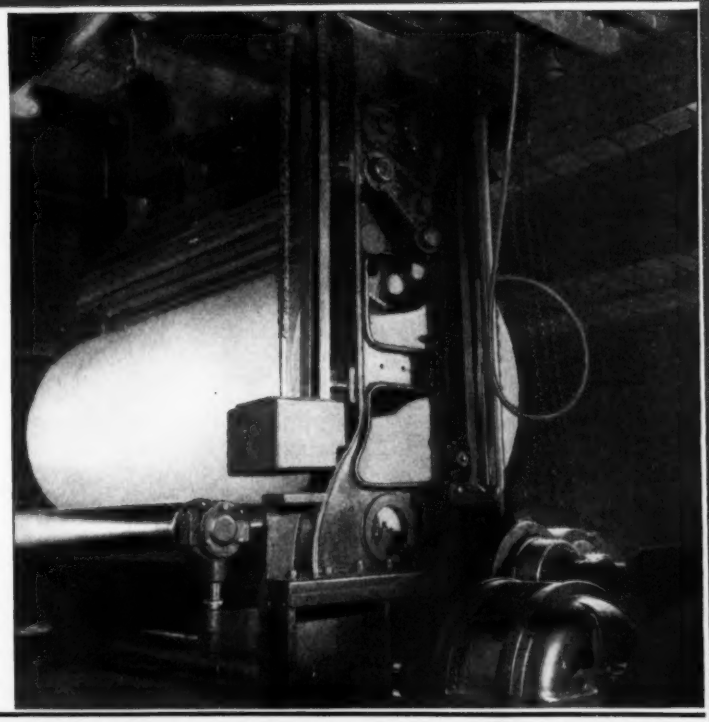
A tentative list of sizes of the ¼, ½, 1 and 2 pound white glassine paper bags, based on the findings of a recent survey of variety among the manufacturers, has been selected to form a basis for discussion.

The Ross System Installed at Sylvania

J. O. Ross Engineering Corporation has installed a double coating and drying system at the mill of the Sylvania Industrial Corporation at Fredericksburg, Va. The system consists of specially designed housing and air supply ducts, unroll stand, coating head, threading conveyor, automatic sheet guide and rewinder.

a clean cut ~ a sure cut ~ a shear cut ~ a clean cut ~ a sure cut ~ a shear cut ~





LANGSTON
Slitters & Rewinders

OPERATING records, collected and analyzed by impartial surveyors, show conclusively that Langston Slitters and Rewinders are highly profitable. And why not? These machines are the product of over thirty years' experience. They contain elements of design, workmanship and materials that are time-tested. High speeds, of course—yet at no sacrifice of quality rolls. The Shear-Cut principle continues to produce those firm, square-edged, *dust-free* rolls such as no other method can match. Manufacturers and converters realize the necessity of reducing production, maintenance and labor costs; at the same time improving the quality of their product. Such firms will find it to their interest to learn what fact records prove Langston's have done on these points.

SAMUEL M. LANGSTON COMPANY
Camden, New Jersey

a shear cut ~ a sure cut ~ a clean cut ~ a shear cut ~ a sure cut ~ a clean cut ~

R. B. Wolf Goes With Weyerhaeuser

Robert B. Wolf, president of the Pulp Bleaching Corporation, New York, who is widely known throughout the industry for his many important contributions to the science of pulp manufacture, from the time of his early connection with the Burgess Sulphite Fibre Company, now the Brown Company, down to his connection with the Pulp Bleaching Corporation, has recently made a connection with the Weyerhaeuser Timber Company, Tacoma, Wash.

The Weyerhaeuser interests have now under construction at Longview, Wash., a sulphite pulp mill with an initial capacity of 150 tons of bleached sulphite fiber a day, of which Mr. Wolf will be the manager, and under whose direction the ouput of the mill will be marketed to the trade. What this means will be appreciated by all who are familiar with the pioneer work done by Mr. Wolf in the early days in the scientific control of pulp manufacture and the development of bleaching methods, which gave to one of the companies with which he was connected a pre-eminent position as producers of bleached pulp.

Mr. Wolf's connection with the pulp and paper industry extends over thirty-five years. He was graduated from Delaware College with a degree in electrical enginering and later became an M. E. He entered paper mill work almost immediately, being connected with different mills in New York State and New England. For a time he was superintendent of the Piercefield, N. Y., sulphite mill of the International Paper Company, and was later connected with the Union Bag & Paper Company, having been appointed to supervise the design and construction of its pulp mill at Hudson Falls, N. Y. When the plant was ready for operation he was chosen superintendent, and held this position until 1906, when he became associated with the Burgess Sulphite Fibre Company, (now the Brown Company), of Berlin, N. H. His record with this company is well known. As manager of the Berlin plant he inaugurated a system of recording operations, which was the subject of numerous papers and discussions at meetings of the Technical Association of the Pulp and Paper Industry. He is credited with the distinction of being able to expand production while at the same time improving the quality of the product.

Mr. Wolf's subsequent connection with the Spanish River Pulp and Paper Mills, at Sault Ste. Marie, Ont., was interrupted by the entrance of the United States into the great war. Mr. Wolf was appointed to serve on the staff of the United States Emergency Fleet Corporation, and shortly after the close of the war he returned to the pulp and paper industry, organizing the engineering firm known as Wolf & Hill. The Pulp Bleaching Corporation was incorporated in 1925.

Throughout his industrial career Mr. Wolf has been intensely interested in the human side of management problems and has made a number of contributions to both technical and philosophical literature. His return to an executive position in the manufacturing field will be welcomed by his many friends and associates.

Following the resignation of R. B. Wolf to become manager of the Pulp Division of Weyerhaeuser Timber Company, Raymond P. Hill has been elected president of the Pulp Bleaching Corporation, New York city. Mr. Hill is also president of Pulp Bleaching Limited, Montreal, Canada, and is secretary and treasurer of International Bleaching Corporation of Delaware.

Mr. Hill came to the pulp and paper field eighteen years ago from the electrical industry, served as chief engineer in a number of well known mills, and became a partner of R. B. Wolf in 1923. He has been vice-president and manager of the Pulp Bleaching Corporation since its organization in 1925. Five years ago he organized International Bleaching Corporation, which effected a consolidation of the patents and interests of Wolf, Fletcher, Stebbins Engineering and Manufacturing Co., Collins, Moore & White Company, and others in the pulp bleaching field

Raymond S. Hatch succeeds Mr. Hill as vice-president of the Pulp Bleaching Corporation. He is also vice-president of Pulp Bleaching Limited and technical director of the International Bleaching Corporation.

Mr. Hatch entered the paper industry twenty years ago from a previous experience in the field of organic chemistry. He has served the industry as chief chemist, production manager and mill owner; was one of the pioneer members of TAPPI and its president for two years. He joined Wolf & Hill in 1928.

James F. Smith who has been with Wolf & Hill for many years becomes secretary-treasurer of both the American and Canadian companies.

R. B. Wolf remains president of the International Bleaching Corporation, this being a purely research institution, which has no commercial dealings with the trade in North America.

To Contest St. Regis Claim

[FROM OUR REGULAR CORRESPONDENT]

HARRISVILLE, N. Y., April 20, 1931—Alleging that it has been damaged to the extent of $50,000 and forced to dismantle its mill, the Harrisville File Folder Company plans to contest the action recently started by the St. Regis Paper Company to recover about $25,000 claimed to be owed on contract for paper. Philip L. Hane is president of the defendant company which has suspended operations. Russell Benedict has been appointed referee by Judge Edmund H. Lewis in order to hear the case. The St. Regis Company claims in its complaint that it furnished the defendant with paper over a period of several months and that the latter tried to make itself judgment proof when an effort was made to collect the payment of balance due.

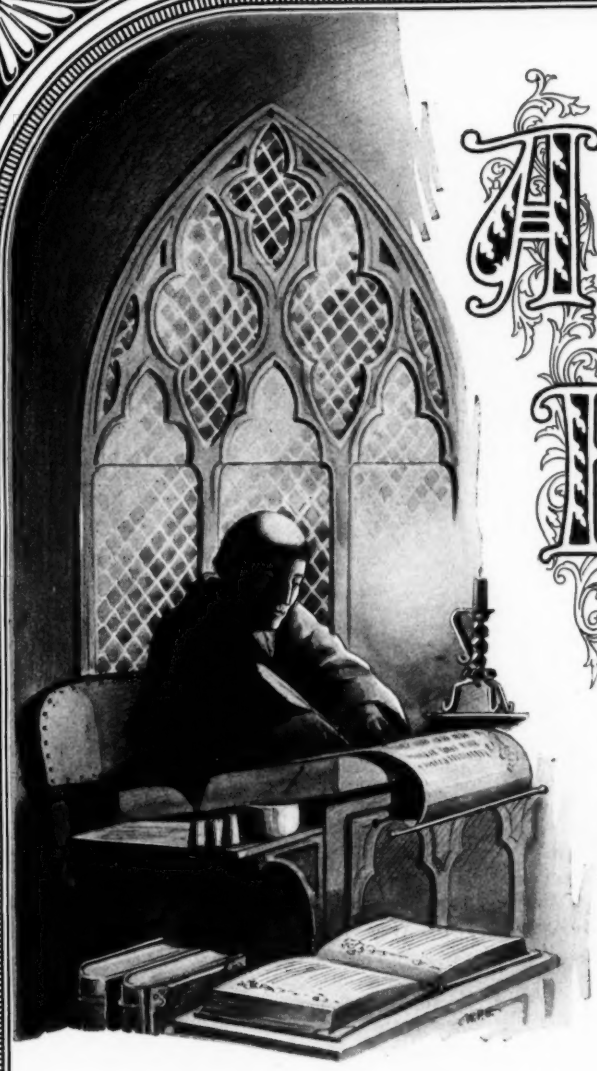
The defendant company contends that it made an agreement with the St. Regis Company on June 16, 1930 for supplying file folder tag board to be used in making folders but that the tag board was not satisfactory. It also claims that experiments carried on with the tag board over a period of several months did not prove profitable. The defendant also claims that its representatives went to the Harrisville plant with representatives of the St. Regis Company to make an investigation at the mill but it was found that nothing could be done to remedy the situation. The St. Regis Company is represented by the firm of Le Boueff & Winston of New York with Garfield & Seligson appearing in behalf of the defendant.

R. A. Shapiro Made Receiver

DAYTON, Ohio, April 20.—Robert A. Shapiro has been appointed receiver for the Wyoming Waste Paper Company, in common pleas court late Monday upon application of Ben Dlott, who avers in his petition that he is surety on notes in the sum of $6000.

It is recited that the defendant company is being pressed by creditors and that if executions are levied the business of the company will be ruined. The receiver, it is prayed shall be empowered to convert the assets to the payment of obligations.

Ben Duberstein, Max Rosen and Harry Peck were appointed appraisers.



Alpha Fibre

PAPERS made from Alpha Fibre possess all the characteristics required in high grade papers: strength, folding qualities, beautiful surface, brightness of color, crackle and durability.

This highly purified cellulose is the result of many years of experimentation in the Brown Company's research laboratory.

A Service to Paper Manufacturers

Manufacturers who are anxious to develop the highest quality and greatest value in their papers will find the several grades of Alpha Fibre worthy of trial. Our Technical Service Division is ready to work with you in any way that will help with such developments. High grade papers can only be made from high grade raw material, rags or Alpha Fibre.

BOSTON
NEW YORK
PITTSBURGH
ATLANTA
CHICAGO
ST. LOUIS
MINNEAPOLIS
SAN FRANCISCO
BROWN CORP., MONTREAL, P. Q.

BROWN Company
FOUNDED 1852
Portland, Maine

New York Trade Jottings

Anson C. Goodyear has been elected a director of the Union Bag and Paper Company, New York, succeeding Philip G. Mumford, resigned.

* * *

Vernon Brothers & Co., of 66-68 Duane Street, New York, announce a new stock line, Wedgewood Offset, a product of the Champion Coated Paper Company.

* * *

Atlantic Gummed Paper Corporation has been chartered under the laws of the State of New York with a capital stock of $60,000. M. Popper, of 18 East 41st street, New York, was the attorney.

* * *

Dr. Hugh P. Baker, Dean of the School of Forestry at Syracuse University, was a visitor to the offices of the American Paper and Pulp Association, 370 Lexington Avenue, New York, early this week.

* * *

International Paper and Power Company, New York, reports its consolidated earnings in January available for preferred dividends, both before and after depreciation, were greater in amount than in any previous January since 1925.

* * *

Pejepscot Paper Company, Inc., with sales offices at 42 Broadway, New York, under the management of Arthur Schroeder, are distributing a new and attractive booklet showing the new line of papers recently manufactured by Pejepscot, known as Pastel Creations.

* * *

The Timber Conservation Board appointed by President Hoover, has received word from S. L. Willson, president and Jesse H. Neal, manager, of the American Paper and Pulp Assocation, with headquarters at 370 Lexington Avenue, New York, that at present Charles W. Boyce, secretary of the association, will be able to spend one week out of each month in Washington helping the Board in its work in special relation to paper and pulp. Mr. Boyce was in Washington last week.

* * *

Texas Gulf Sulphur Company, Inc., New York, reports for the quarter ended March 31, 1931, net income of $2,448,198 after depreciation and federal taxes, but before depletion, equivalent to 96 cents a share on 2,540,000 no-par shares of stock. This compares with $3,803,701 or $1.50 a share in first quarter of 1930. During the first quarter of 1931, the Company decreased its reserves, including reserves for depreciation and federal taxes, by $3,713, making total of these reserves $13,659,884 on March 31, last.

* * *

C. W. Boyce, secretary of the American Paper and Pulp Association, was the guest speaker at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Asociation of the Paper Industry, held at George's Restaurant, New York, last Tuesday. Mr. Boyce discussed in a concise manner world developments of the wood pulp industry and the international movements of pulpwood. There was an excellent attendance and Mr. Boyce's address was enjoyed and appreciated by all present.

Joins Arthur D. Little, Inc.

James F. Walsh, formerly vice president and technical director of the Celluloid Corporation, has joined the consulting staff of Arthur D. Little, Inc., of Cambridge, Mass.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 20, 1931.—It is expected that a large number of salesmen from Boston paper houses will attend the New England Conference, held under the auspices of the New England Association of Printing House Craftsmen, at the Aurora Hotel, Worcester, Mass., April 26. A dinner dance is to be held Saturday night.

The April number of "How," the house organ of the Tileston & Hollingsworth Company, contains an analysis of the April sheet of the 1931 Calendar, besides other interesting articles.

The June meeting of the Boston Paper Trade Association is to be held on the 8th at a hotel either on the North Shore or the South Shore, with the golf tournament to start early Tuesday morning, June 9.

Norman Harrower, of Linton Bros. & Co., Fitchburg, Mass., has returned from a six weeks trip to the Coast.

Frank H. Winter, sales manager for Carter, Rice & Co. Corp., has gone to his former home in Middleburg, Va., expecting to be away about a week.

Henry L. Goodman is in New York for a few days, visiting the Royal Card and Paper Company and the Mastercraft Paper Company.

Season of Forest Fires Approaching

Beware of setting forest fires! One of the most dangerous seasons of the year is here. Serious damage has been done in the Central States this spring both to forests and settled communities. Forest fires have started in New York. Records in this State show that forest fires may occur any month in the year dependent upon weather conditions but spring and fall are the most dangerous seasons, according to the New York State College of Forestry at Syracuse University.

Statistics kept many years on the causes of forest fires show that the largest number of fires from any one cause are set by smokers and that the cigarette which is used more than other forms of tobacco is the chief offender. This is due to the fact that a cigarette when thrown away continues to burn until entirely consumed. Many serious forest fires are set by thoughtless persons who throw cigarettes and other forms of lighted tobacco and burning matches from the windows of railroad trains and also from automobiles.

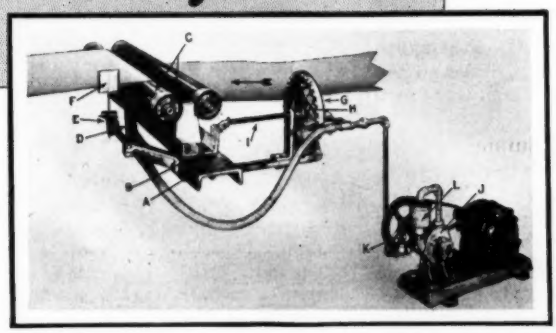
The fishing season is luring into the woods many smokers who should use extraordinary care in disposing of their "smokes" and in building and extinguishing camp fires.

Forest fires throughout the country are increasing at an appalling rate. Every forest fire takes money out of the taxpayer's pocket. Fires destroy recreational areas and material that would have furnished employment in many lines of industry. Forests are not insured, every forest fire represents a total loss which always falls upon the public purse. When forests are destroyed everybody suffers because not only are fish, game, birds and recreation adversely affected but agriculture and the great metropolitan centers also suffer through the effect that forest destruction has upon the water supply.

Spaulding Paper Shows Deficit

PORTLAND, Ore., April 18, 1931—The Spaulding Pulp & Paper Company, Newberg, Ore., showed a deficit for the fiscal operating year of $28,881, according to report made to stockholders early in March. The board of directors issued a recommendation for issuance of a $250,000 trust mortgage to permit refinancing.

You Will Soon Find These Products In The Majority Of Mills!



The WALDRON-DICKHAUT *Automatic* WEB GUIDE

The most effective insurance against poor rolls, damaged finish and costly waste. The Waldron-Dickhaut Guide automatically holds the paper to its correct course in its travel and also maintains a uniform surface contact across the web without any danger of injuring the edge. Wide widths and fast speeds present no winding difficulties in plants equipped with this efficient guiding apparatus. This guide can be effectively used for continually aligning dryer felts, functioning automatically and with absolutely no danger to edge of felts.

You will find these products in the majority of mills. Bulletins describing either or both of these products will be sent on request

JOHN WALDRON CORPORATION

Office and Works—New Brunswick, N. J.

201 No. Wells St. CHICAGO
122 East 42nd St. NEW YORK
311 Lewis Bldg. PORTLAND, ORE.

The ONEIDA CHUCK

The new roll chuck that allows the roll to be run down to the last thickness of paper without any danger of damaging the core. Eliminates waste due to wedge shaped iron cores breaking edge of paper on inside of rolls. Furnished to fit standard sizes of shafts and cores.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Columbus, Ohio—The Central Ohio Paper Company, 226 North Fifth street, has awarded a general contract to R. L. Wirtz, 88 North Front street, for a one-story shop unit on Spring street, near Fifth street, to be 50 x 140 feet, estimated to cost close to $25,000, with equipment. An award for structural steel has been let to the International Steel Company, Columbus. Plans were prepared by the contractor.

St. Petersburg, Fla.—The Shippers Equipment Company, 18th avenue and Fourth street South, has improvements under way at its plant, including the installation of equipment for the production of a new line of paper and other shipping containers, including fibre stocks, etc. It is expected to develop considerable increased capacity. H. E. Wendell is president.

Toledo, Ohio—Plans are under way for the rebuilding of the plant at Jackson and Erie streets, recently destroyed by fire, a considerable portion of the structure being occupied by the Pan-American Wall Paper Company. The R. L. Cone Company, 1116 Madison street, will be in charge of reconstruction of the building, estimated to cost about $30,000. The Pan-American Wall Paper Company expects to occupy its previous quarters as soon as the structure is completed.

Chicago, Ill.—The Safety Paper Corporation, Room 2500, 1 North LaSalle street, recently organized with a capital of $25,000, is reported planning the operation of a local plant for production of a line of special paper products. Raymond P. Fischer is the principal incorporator.

Juneau, Wis.—The Juneau Fibre Company, Juneau, is planning the early rebuilding of portion of storage and distributing plant recently destroyed by fire. An official estimate of loss has not been announced. A. A. Nowak is president.

Baltimore, Md.—The real estate, plant and equipment of the Paper Products Company, 2405-11 West Franklin street, will be offered at a public sale on April 29, by Frederick J. Singley, trustee in bankruptcy. The sale will include all machinery and equipment in the plant, including machines for the manufacture of folding and other paper boxes and containers, for the production of corrugated paper boxes, etc., as well as printing machinery and raw materials now on hand.

Boston, Mass.—The Sawyer Card and Paper Company, 32 Oliver street, has leased space in the Horbor Building, 470 Atlantic avenue, and will remove to that location at an early date, where headquarters will be maintained. Increased operating facilities will be provided at new location.

Aurora, Ill.—The Miller, Bryant, Pierce Company, 223 South River street, manufacturer of carbon and other paper stocks, etc., is said to be making ready for the early erection of its proposed new plant addition, for which bids were asked on general contract a number of weeks ago. It will be three-story, located on side of present plant, and is estimated to cost about $80,000, with equipment. The new unit will provide for considerable increase in present capacity. Frank D. Chase, Inc., 720 North Michigan avenue, Chicago, Ill., is architect and engineer.

Detroit, Mich.—Gailwood Hopkins, Inc., 3903 Nottingham street, recently organized with a capital of 1800 shares of stock, no par value, is said to be planning the operation of a local plant for the manufacture of a line of paper products. The company is headed by Colin G. Odell, address noted, and Ronald S. Russell, Hopkins, Mich.

White Pigeon, Mich.—The Wolverine Carton Company, Grand Rapids, Mich., has taken over the space in the plant of the Eddy Paper Corporation at White Pigeon, previously occupied by the Eddy Filler Company, which recently removed its plant to Three Ripers, Mich., where increased production facilities have been provided. The Wolverine company will remove at once to the White Pigeon mill and will develop considerable increased output at that location.

New Incorporations

Dayton, Ohio—The Union Paper Stock Company has been incorporated with a capital of 100 shares of stock, no par value, to deal in paper products of various kinds. The incorporators are Robert A. Shapiro and I. L. Jacobson, 1005 Third National Bank Building, Dayton. The last noted is company representative.

Philadelphia, Pa.—Kardon Brothers, 114 South Second street, have filed notice of organization to deal in paper stocks of various kinds. Jacob Kardon, 5827 Chestnut street, heads the company.

Milwaukee, Wis.—The General Lithograph Company has been formed with a capital of $50,000, to operate a local plant. The incorporators are Thomas F. Millane and William G. LeBouef, 522 Third avenue, Wauwatosa, Wis.

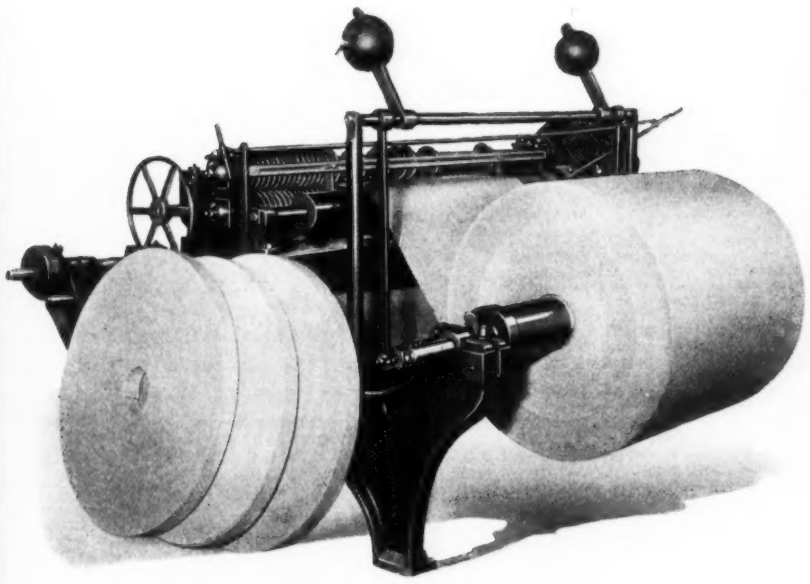
Brooklyn, N. Y.—The Atlantic Gummed Paper Corporation has been incorporated with a capital of $60,000, to manufacture gummed papers and kindred paper stocks. Company will be represented by M. Popper, 18 East Forty-first street, New York, attorney.

New York, N. Y.—The A. H. Jacobs Company, has been incorporated with a capital of 750 shares of stock, no par value, to deal in wall paper and other paper products. The company is represented by A. P. Bersohn, 25 West Forty-third street, attorney.

Indianapolis, Ind.—The Century Paper Company, 207 South Meridan street, has filed notice of company reorganization under the same name.

HEAVY DUTY SLITTER and REWINDER

Paper mills equipped with this Inman Heavy Duty Slitter can furnish their customers with paper or board slit and rewound from 1 inch width and up at very little extra cost per ton.



Wide and narrow rolls cut at the same time are of uniform tension. A roll slit and wound 1″ wide and 48″ in diameter can be handled without danger of spinning. Made in three widths: 48″ — 60″ — 72″.

Let us send you further information, including price and delivery of one of these machines for your mill.

INMAN MANUFACTURING CO., Inc.

AMSTERDAM, N. Y.

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending January 31, and for the Six Months Ending December 31, 1930 Compared with Corresponding Month of Previous Year

IMPORTS—PAPER

	January				Six Months Ending December 31			
	1930		1931		1929		1930	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
PAPER AND MANUFACTURES	.....	$13,350,144	.....	$10,784,264	.....	$85,879,083	.....	$72,096,848
Printing paper—								
Standard news print ....lbs...free	397,239,819	11,675,913	344,220,718	9,734,933	2,581,969,988	76,022,245	2,277,676,697	65,368,794
Imports from:								
Finland ....lbs.	7,902,309	183,017	5,615,053	134,526	35,828,890	854,873	37,454,268	864,773
Germany ....lbs.	1,655,470	43,699	3,332,756	74,502	10,576,686	253,198	15,829,439	387,923
Norway ....lbs.	596,429	12,849	3,282,718	84,067	2,476,856	64,902	10,655,971	251,971
Sweden ....lbs.	13,395,605	336,162	8,780,643	208,850	55,954,985	1,417,173	67,730,637	1,682,391
Canada ....lbs.	343,210,851	10,218,547	289,612,581	8,318,619	2,293,675,675	68,257,205	1,951,576,822	56,683,990
Newfoundland and Labrador....lbs.	30,479,155	881,639	33,589,769	914,153	183,421,048	5,173,913	194,428,237	5,497,699
Other countries ....lbs.	.....	.....	7,198	216	35,848	981	1,323	47
All other, n. e. s....lbs...dut.	177,730	7,824	183,800	7,675	2,129,929	116,089	1,257,495	58,071
Greaseproof and waterproof papers....lbs...dut.	179,405	63,492	34,535	6,231	1,080,454	314,392	297,178	52,621
Kraft wrapping paper....lbs...dut.	983,679	39,986	449,778	18,889	5,184,927	225,825	2,968,282	113,478
Other wrapping paper....lbs...dut.	180,342	9,461	146,554	8,000	3,470,375	117,732	1,235,616	67,253
Writing and drawing paper, etc....lbs...dut.	380,561	87,827	180,828	42,170	1,649,050	499,066	1,409,911	331,494
Writing paper and envelope combinations ....dut.	.....	.....	.....	12,335	.....	.....	.....	260,554
Surface-coated paper ....lbs...dut.	207,026	73,486	71,959	36,286	1,095,606	479,169	765,792	318,865
Uncoated paper, decorated or embossed..lbs...dut.	.....	.....	29,717	6,279	.....	.....	82,540	26,025
Tissue and similar papers....lbs...dut.	387,097	207,549	.....	.....	2,786,644	1,478,778	.....	.....
Weighing not over 6 pounds to the ream ....lbs...dut.	.....	.....	110,889	82,589	.....	.....	673,120	443,524
Other ....lbs...dut.	.....	.....	51,210	21,644	.....	.....	251,560	102,486
Paper boards, n. e. s.—								
Pulp board, in rolls....lbs...dut.	3,981,347	94,655	1,689,466	34,535	27,639,923	582,228	15,875,461	353,810
Paper board, pulp board, n. e. s., and card board ....lbs...dut.	1,101,327	27,093	1,348,630	28,666	8,489,903	212,673	5,917,885	142,923
Leather board, test and wall board..lbs...dut.	131,345	5,781	119,845	5,753	1,187,003	52,037	808,276	61,443
Cigarette paper, cigarette books, and covers ....lbs...dut.	1,255,643	433,136	1,271,926	345,715	6,240,787	2,143,348	7,601,961	2,038,460
Hanging paper (wall paper)....lbs...dut.	352,413	92,231	242,447	60,437	1,534,493	365,248	741,855	218,198
Duplex decalcomania paper, not printed..lbs...free	65,035	15,530	22,818	5,215	227,358	54,654	237,271	55,511
Paper boxes ....dut.	.....	123,414	.....	67,038	.....	891,854	.....	531,440
Papier-mâché and pulp manufacturers, n. e. s. ....dut.	.....	104,585	.....	45,094	.....	288,307	.....	222,945
All other paper and manufactures....dut.	.....	288,181	.....	214,780	.....	2,035,438	.....	1,328,953

WOOD PULP

Mechanically ground wood pulp....tons..free	25,378	738,750	.....	.....	132,634	3,419,179	.....	.....
Unbleached ....tons..free	.....	.....	11,585	308,527	.....	.....	127,839	3,262,185
Bleached ....tons..free	.....	.....	1,267	32,093	.....	.....	4,403	113,103
Sulphite wood pulp....tons	113,538	6,456,743	110,442	5,501,417	541,831	31,657,536	482,114	26,436,476
Unbleached ....tons..free	87,116	4,487,831	78,214	3,605,901	375,623	19,027,618	324,060	15,677,537
Bleached ....tons..free	26,422	1,968,912	32,228	1,895,516	166,208	12,629,918	158,054	10,758,939
Imports from:								
Finland ....tons	6,885	346,630	9,607	437,658	59,358	2,881,735	55,878	2,618,531
Germany ....tons	5,382	362,712	4,238	272,886	30,689	2,146,842	30,323	1,962,528
Norway ....tons	5,463	377,986	4,002	219,381	27,399	1,857,834	22,308	1,390,439
Sweden ....tons	61,666	3,329,399	71,246	3,329,349	215,593	11,856,939	197,580	10,216,963
Canada ....tons	33,008	1,980,584	19,102	1,127,638	196,920	12,284,378	163,457	9,633,481
Other countries ....tons	1,134	59,432	2,247	114,505	11,872	629,808	12,568	614,534
Sulphate wood pulp, unbleached (kraft pulp) ....tons..free	38,136	1,995,649	31,140	1,245,617	216,964	11,345,266	182,386	7,617,292
Imports from:								
Finland ....tons	1,703	76,730	535	21,331	14,793	705,327	12,679	480,000
Norway ....tons	536	26,101	1,117	39,361	8,740	436,636	6,293	241,067
Sweden ....tons	27,910	1,406,108	25,714	959,908	134,975	6,708,736	136,225	5,202,693
Canada ....tons	7,496	461,392	3,774	225,017	55,800	3,375,615	26,242	1,659,757
Other countries ....tons	491	25,318	.....	.....	2,656	118,952	947	33,775
Sulphate wood pulp, bleached....tons..free	1,100	94,324	7,928	384,905	7,290	538,976	11,806	885,975
Soda pulp ....tons..free	.....	.....	299	16,789	.....	.....	1,680	109,478
Other pulp ....tons..free	318	24,270	.....	.....	3,134	281,140	210	20,226

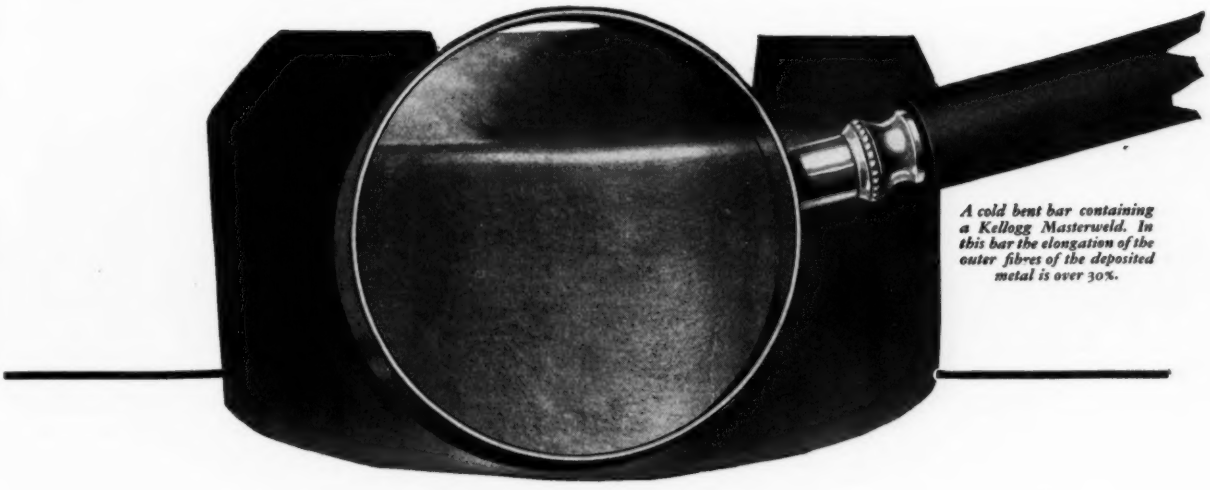
CRUDE PAPER STOCK

Rags for paper stock....lbs...free	38,857,066	783,429	8,837,110	170,999	234,766,184	5,073,437	91,788,223	1,623,443
All other paper stock....lbs...free	19,049,171	330,282	10,151,569	173,681	144,109,723	2,517,125	87,212,863	1,102,027

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Colors, dyes, stains, color acids, and color bases, n. e. s....lbs...dut.	441,222	484,078	217,459	258,268	3,416,010	3,665,574	2,301,920	2,487,597
Imports from:								
Belgium ....lbs.	1,984	1,767	5,384	6,004	46,396	57,489	31,985	42,574
France ....lbs.	1,025	1,028	2,744	4,773	44,931	72,556	30,135	39,423
Germany ....lbs.	350,198	393,177	167,055	190,871	1,719,733	1,715,490	1,311,470	1,422,513
Italy ....lbs.	.....	.....	4,498	4,148	8,819	7,013	21,166	24,449
Switzerland ....lbs.	83,148	82,445	32,619	45,197	1,527,607	1,739,332	808,809	854,633
United Kingdom ....lbs.	4,799	5,508	2,757	3,505	48,416	50,780	71,637	77,251
Other countries ....lbs.	68	153	2,402	3,770	20,108	22,914	26,718	26,754
China clay or kaolin....tons..dut.	13,534	146,628	11,745	122,869	112,170	1,204,450	74,286	769,897
Casein or lactarene ....lbs...dut.	1,552,994	211,520	592,631	30,859	9,320,620	1,142,512	2,404,194	134,390

(Continued on page 42)



A cold bent bar containing a Kellogg Masterweld. In this bar the elongation of the outer fibres of the deposited metal is over 30%.

Greater pressure vessel reliability *is assured by the Masterweld*

MARGINS of safety and reliability unsurpassed by any other method of fabrication are assured in Kellogg Masterweld Pressure vessels. The Kellogg Masterweld, which is ductile and tough to an unusual degree, always provides a perfect bond possessing the full strength of the material welded.

The cold bent bar shown contains a Masterweld, and demonstrates the excellent elongation of the deposited metal. In this bar the elongation of the outer fibres is over 30%.

Kellogg guarantees Masterweld metal to possess a minimum tensile strength of 60,000 lbs. and a minimum yield point of 40,000 lbs. per square inch.

Leading insurance companies approve the Kellogg Masterweld for the fabrication of both *fired* and *unfired* pressure vessels. Masterweld vessels are fully insurable and meet the most exacting inspection and tests.

Write for illustrated brochure.

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KELLOGG *Masterweld*

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Kellogg Products include Masterweld Digesters, Boiler Drums, Receivers, Separators, Headers and Complete Power Plant Piping

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 40)

EXPORTS—PAPER

	January 1930 Quantity	January 1930 Value	January 1931 Quantity	January 1931 Value	Six Months Ending December 31 1929 Quantity	Six Months Ending December 31 1929 Value	Six Months Ending December 31 1930 Quantity	Six Months Ending December 31 1930 Value
PAPER AND MANUFACTURES	.....	$3,144,535	.....	$2,050,612	.....	$18,255,742	.....	$13,580,644
Printing paper—								
News print paper ..... lbs.	2,950,259	104,237	1,391,441	49,474	20,359,929	715,130	8,222,010	312,913
Exports to:								
Europe ..... lbs.	51,708	1,335	328,205	9,302	627,534	38,697	945,185	41,714
Canada ..... lbs.	2,672	153	3,741	112	324,582	16,494	48,942	1,751
Central America ..... lbs.	196,410	7,197	100,410	3,540	1,195,112	43,811	576,933	21,635
Cuba ..... lbs.	397,114	17,112	352,828	16,566	1,789,343	65,361	1,385,655	60,268
South America ..... lbs.	1,169,600	37,388	140,171	4,834	10,390,560	338,877	1,527,427	53,130
China, Hong Kong, and Kwantung... lbs.	212,065	7,986	.....	.....	1,183,002	41,219	283,749	11,185
Philippine Islands ..... lbs.	823,039	28,064	404,484	12,598	5,940,352	130,700	2,976,624	103,299
Other countries ..... lbs.	97,651	5,005	61,602	2,522	909,444	39,971	477,495	19,931
Book paper, not coated ..... lbs.	5,028,459	327,833	1,648,223	108,203	18,771,297	1,314,110	12,240,164	829,334
Exports to:								
Europe ..... lbs.	163,760	13,637	20,433	1,447	597,907	73,627	1,533,883	122,581
Canada ..... lbs.	1,054,434	64,783	589,165	37,352	5,639,193	327,137	4,094,311	241,874
Mexico ..... lbs.	112,073	10,576	24,827	2,584	267,365	29,180	216,706	23,560
Cuba ..... lbs.	433,809	29,673	295,936	18,368	2,867,412	196,555	1,594,841	101,805
Argentina ..... lbs.	176,378	11,831	95,684	6,954	547,452	46,626	602,638	42,448
Other South America ..... lbs.	209,840	16,300	79,524	6,485	689,674	59,736	619,897	45,987
China, Hong Kong, and Kwantung... lbs.	1,701,591	103,517	4,096	634	4,855,773	296,186	666,799	43,636
Philippine Islands ..... lbs.	665,687	42,339	229,740	15,106	1,933,457	137,810	1,403,561	94,633
Australia ..... lbs.	103,454	8,647	170,858	8,776	403,837	67,644	350,024	29,315
Other countries ..... lbs.	407,433	26,530	137,960	10,497	969,227	79,609	1,157,504	83,495
Cover paper ..... lbs.	191,876	30,599	176,170	25,729	1,029,047	181,888	945,887	143,749
Greaseproof and waterproof paper ..... lbs.	234,279	40,392	451,771	77,682	1,538,841	272,925	2,108,712	407,415
Overissue and old newspapers ..... lbs.	9,265,633	93,147	14,249,936	94,958	83,367,219	865,294	87,440,340	617,901
Wrapping paper ..... lbs.	5,291,642	332,968	3,885,542	168,758	22,384,592	1,474,261	20,662,129	1,255,160
Surface-coated paper ..... lbs.	1,166,517	110,858	743,847	71,523	7,939,031	728,815	2,589,627	323,377
Tissue and crepe paper ..... lbs.	438,376	79,722	243,524	43,503	2,608,819	585,058	2,197,655	437,786
Toilet paper ..... lbs.	801,975	86,853	794,433	88,302	3,463,239	384,758	3,467,712	381,846
Paper towels and napkins ..... lbs.	423,346	56,316	345,194	32,688	1,937,038	236,784	1,856,916	218,500
Boxboard (paperboard and strawboard) ..... lbs.	7,859,145	195,831	3,807,059	88,864	25,891,714	691,348	24,904,002	628,115
Bristols and bristol board ..... lbs.	462,289	31,743	162,629	18,309	1,320,363	135,831	1,105,481	106,099
Other paper board ..... lbs.	3,810,091	198,844	2,207,903	106,604	26,591,723	1,110,062	14,035,550	665,475
Sheathing and building paper ..... lbs.	1,485,530	57,280	1,399,740	41,486	10,081,721	330,061	8,572,323	275,919
Fiber insulating lath or board ..... sq. ft.	5,062,914	174,078	3,719,324	122,933	18,670,232	644,757	27,697,744	907,388
Wall board of paper or pulp ..... sq. ft.	1,753,449	60,307	1,825,855	61,699	35,647,458	1,162,143	14,472,464	494,246
Blotting paper ..... lbs.	294,921	34,326	199,094	22,313	1,663,917	205,091	1,438,071	181,556
Filing folders, index cards, and other office forms ..... lbs.	144,536	53,348	162,054	48,259	815,302	297,062	798,955	279,518
Papeteries (fancy writing paper) ..... lbs.	47,617	10,443	14,202	4,297	543,121	123,000	343,825	81,111
Other writing paper ..... lbs.	1,880,296	199,259	1,123,384	121,277	13,048,944	1,377,170	9,140,153	883,725
Paper hangings (wall paper) ..... rolls	345,861	58,862	630,221	71,798	.....	182,618	1,162,552	148,052
Paper bags ..... lbs.	882,064	77,990	1,123,393	81,411	6,365,915	507,722	6,429,015	478,174
Boxes and cartons ..... lbs.	1,659,729	100,268	1,274,028	87,397	12,963,110	919,905	10,038,121	637,624
Envelopes ..... lbs.	183,041	34,570	150,062	24,580	1,194,835	217,483	1,012,349	172,978
Vulcanized fiber sheets, strips, rods, and tubes ..... lbs.	469,080	108,696	289,306	72,212	2,882,583	687,634	2,170,080	543,966
Cash-register and adding-machine paper ..... lbs.	493,113	42,839	585,954	45,369	3,053,907	281,164	1,514,179	165,242
Other paper and paper products	.....	452,926	.....	270,984	.....	2,623,668	.....	2,003,475
WOOD PULP AND PAPER STOCK								
Sulphite wood pulp ..... tons	2,538	133,786	1,891	94,741	16,228	930,973	14,446	741,396
Soda wood pulp ..... tons	352	27,790	26	2,009	1,012	83,957	395	31,438
Other wood pulp ..... tons	1,372	57,495	43	2,979	3,931	233,899	5,729	78,253
Rags and other paper stock ..... lbs.	7,535,343	113,261	3,936,855	51,322	47,958,578	753,104	30,827,554	363,338
PAPER AND PULP MILL MACHINERY								
Paper and pulp mill machinery	.....	.....	235,947	.....	.....	2,308,854	.....	1,913,651

Union Bag Mill on Full Time

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., April 20, 1931—Improved conditions are reported from the Union Bag and Paper Company which is again operating its mills on full time scheules. Employees who have been working three days a week welcomed the return to the full week as it meant increased wages. It was stated, however, that despite increased production no new employees had been hired.

Officials of the company claim that business conditions have been good for the past few weeks but they are unable to make any plans for the future. It was learned that conditions have been varying although there has been a noticeable increase in business over that of the winter months. The company has been carrying on preparations to take every advantage of an improvement in business and as a result are now profiting.

Brotherhood To Meet in Albany

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., April, 20, 1931—Announcement is made that the canvassing board of the International Brotherhood of Papermakers will meet here early next month in order to take a count of the voting contest to be held during the last week in April in which union members of the various locals in this country and Canada will participate. A number of the amendments or resolutions to be voted on were endorsed at the recent convention and the voting contest was arranged in order to obtain the status of union members. Officials of the organization are making arrangements to confer with representatives of Finch, Pruyn & Co. early in May relative to the signing of new wage and working agreements. While the existing contract expires next month it is not likely that any change will be made in the new agreement.

You will be interested in the new Shower Pipe Bulletin, just published.

Economy that counts

Of course, water is worth saving. When it has to be filtered and pumped, and especially when streams are low, it is too valuable to waste.

But water is only a trifle in the cost of paper. To skimp on the showers, for instance, is to risk spoilage of the product.

"Criss Cross" Showers are economical without skimping. Their patented nozzles make a concentrated jet with the most effective angle of impingement. The orifices are too large to be clogged by stray fibres. They do a real job, using only as much water as a real job demands.

As for economy, a user writes: "Your Shower takes approximately 30% less water at 45 lbs. pressure, and gives a much more effective spray" than another make of shower tested.

Try a "Criss Cross" at our risk for 30 days.

THE MOORE & WHITE COMPANY
Established 1885
PAPER MACHINE BUILDERS
15TH ST. & LEHIGH AVE. PHILADELPHIA, PA.

"CRISS CROSS" *shower pipes*

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Power Engineering Consultant

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EMPLOYMENT STABILIZATION

The measurable progress already made by some American corporations towards employment stabilization and the methods which have proved most effective in protecting workers against the disturbing effects of industrial fluctuations are reviewed in a comprehensive report just made public by the American Section of the International Chamber of Commerce. It is pointed out in the report that more than 200 American concerns are now using permanent employment regularization plans with a large degree of success, while more than several thousand companies are trying temporary measures to meet the present emergency.

"Employment regularization experiments of American employers," the committee believes, "have demonstrated unmistakably that the management of every type of business enterprise can exert some measure of control over the economic forces which produce intermittent unemployment. These forces vary in intensity in each line of business and industry. Few industries are immune either to seasonal changes in the demand for their profit shrinkage in volume of business during precipitous declines in general business activity. Yet there is scarcely a line of industry in which some company operating in the United States has not effected an appreciable reduction in irregularity of employment."

Absolutely stability of employment, the committee says, is neither practically obtainable nor economically desirable. Such a condition, it suggests, would connote inflexibility of management and stagnation of company progress.

In its study of the problem, the committee found that a striking change in American thought on unemployment is developing.

"Among a substantial group of employers," the committee reports, "the doctrine of laissez-faire has been superceded by a realization that unemployment is at least partially preventable. These employers are no longer content passively to accept the social and economic wastes accompanying recurring unemployment crisis. No longer is it believed that the vast majority of jobless workers reach that unfortunate state through personal incapacity or sheer indolence. A new generation of business men frankly accepts a major share of the responsibility for the instability of industrial operations which accounts for a large proportion of intermittent employment."

The committee defines the three principal causes of unemployment in this country as seasonal, cyclical and technological. Unemployment, it says, as it exists in the United States, cannot be attributed to any single flaw or weakness in the country's economic structure. It results rather, the committee goes on to say, from the cumulative effect of innumerable interrelated forces adversely affecting the stability of the entire pattern of American business. The report continues: "The remedies for insecure employment which can be applied by the individual employer to his own situation are equally as complex as the forces which produce intermittent unemployment. Hence, the development of regularization policies by American corporations has proceeded experimentally and along highly individualistic lines. With few exceptions the greatest progress in regularization has been made by manufacturers.

"The basis for any comprehensive program of regularization consists of a predetermined budget of operations designed to maintain as nearly constant a level in production and sales from month to month as possible. Likewise, such a program requires long time planning in order that the rate of change in the total volume of business from year to year may be nearly uniform. It is obvious that continuous employment within any company cannot be assured unless production and sales policies are so coordinate as to provide an approximately uniform volume of business at all times. It is, however, utterly impracticable in most lines of industry to attain complete stability either of production or sales. Consequently it has been necessary to develop remedial measures for the purpose of absorbing varying requirements for workers with a minimum volume of idleness and of reduction in earning power.

"Although the technique of regularizing production and distribution varies according to each industry, several elementary principles of management have become recognized as constituting the bases for very comprehensive regularization program. The first of these is the adoption of an annual budget based upon a system of sales forecasting. The annual budget of a manufacturing corporation included detailed schedules of the weekly or monthly volume of production.

"Production schedules for each line of production are developed from statistics showing the estimated requirements for the year as revealed by the sales forecast. The object of a production schedule is, of course, to equalize the weekly or monthly volume of output. Even though it may be impossible accurately to predict the anticipated volume of a sales a year in advance it is still practicable

to minimize periodic fluctuations in production through manufacturing for stock. This device, of course, can be applied only in the manufacture of standardized products. It is peculiarly well adapted to the production of articles which are not subject to rapid deterioration, obsolescence or style changes.

"All of the devices of management for regularizing production have definite limitations. Inability to provide a sufficient volume of work to keep their entire forces of wage earners in continuous full time employment has not, however, deterred some manufacturers in their efforts to regularize employment. Unavoidable adjustments in personnel have been coped with successfully through the adoption of flexible working periods, inter-company transfer of employees and the use of employment benefit plans or other types of financial indemnification.

"Cooperative efforts of groups of employers engaged in the same line of industry or located in the same community have been found to be necessary to moderate the intensity of unemployment resulting from factors wholly outside the control of individual employers. The activities of trade associations and regional or local commercial and civic organizations have thus far been confined largely to promotion campaigns of an educational nature. Such campaigns have been designed to familiarize the members of these organizations with the successful accomplishments of other employers. The work of the Federal government and of state and municipal governments has also been of an advisory and educational nature. Except for expediting public construction programs as a means of relieving unemployment caused by a general business recession, governmental officials have endeavored to coordinate the work of private organizations rather than to institute regularization measures through legislative or administrative action.

"The keynote in employment regularization efforts in the United States is coordination. Admirable progress has been made by hundreds of employers in coordinating production and sales policies so as to secure a relatively constant level of employment. This, in turn, involves the necessity of coordination of the marketing practices of manufacturers and distributors. Likewise, the broad economic problems confronting entire industries have been attacked through the coordinated efforts of companies as represented by their trade associations.

"An even greater degree of cooperation among organized groups of business men is necessary to attain maximum regularity of employment. Although there are many obstacles to effective coordination between the various lines of industry, the plans which are now being laid by numerous groups of business leaders to overcome the complexities of the problem of unemployment, give rise to an expectation that with the development of a new spirit of unity of purpose and unity of action on the part of organized business a permanent reduction in the volume of unemployment can be achieved."

Paper Production for February

According to identical mill reports to the Statictical Department of the American Paper and Pulp Association from members and cooperating organizations, the daily average of total paper production in February increased 7 per cent over January but was 16 per cent under February, 1930. The daily average wood pulp production in February was 7 per cent above January, 1931, and 21 per cent under February, 1930.

Compared with February a year ago, the daily average production registered a decrease in the following grades: News print, uncoated book, paper board, bag, writing, hanging and building papers. The February, 1931, daily average production of news print and hanging papers was lower than in January, 1931. Total shipments of all major grades decreased 18 per cent during the first two months of 1931 as compared with the first two months of 1930.

Identical pulp mill reports for two months of 1931 indicated that the total pulp consumed by reporting mills was 19 per cent less than for two months of 1930, while total shipments to the open market during the first two months were also sharply below the total for the same period of 1930.

All grades of pulp, excepting bleached, easy bleaching, Mitscherlich sulphite and kraft pulps registered increases in inventory at the end of February, 1931, as against the end of January, 1931. As compared with February, 1930, news grade sulphite, easy bleaching sulphite and soda pulp registered decreases in inventory.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF FEBRUARY, 1931

Grade	Production tons	Shipments tons	Stocks on hand end of month tons
News print	88,788	90,901	33,627
Book (uncoated)	76,877	77,200	63,311
Paper board	160,097	156,150	67,690
Wrapping	42,342	41,560	47,748
Bag	10,116	9,829	7,212
Writing, etc.	26,013	25,964	49,024
Tissue (reduction in No. of mills)	6,140	6,110	2,739
Hanging	3,053	3,099	4,447
Building	4,617	4,457	3,040
Other grades	14,081	14,457	15,617
Total—All grades	432,124	429,727	294,455

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF FEBRUARY, 1931

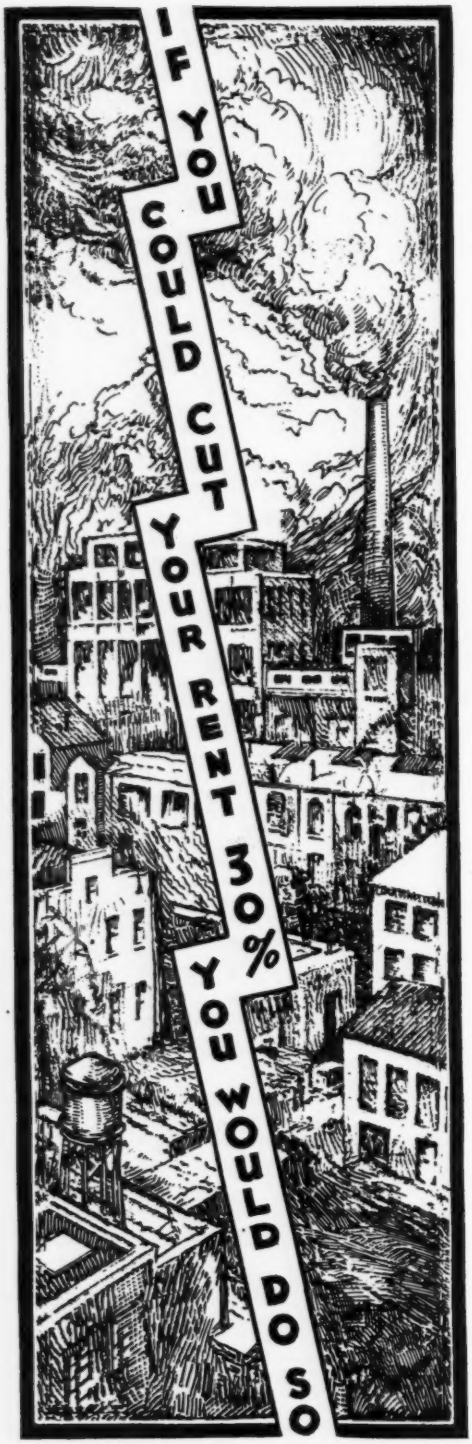
Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	63,236	61,514	1,539	47,779
Sulphite news grade	28,261	26,868	1,483	6,386
Sulphite bleached	21,913	20,697	2,422	3,418
Sulphite easy bleaching	2,467	2,632	200	1,029
Sulphite Mitscherlich	7,102	6,175	1,097	1,532
Kraft pulp	27,279	22,384	5,279	7,561
Soda pulp	19,080	13,980	4,936	2,933
Pulp—Other grades (increase in No. of mills)	549	383	125	353
Total—All grades	169,887	154,633	17,081	70,991

May be Long Conflict in Norway

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 22, 1931—A long conflict in the Norwegian pulp and paper industry is indicated if sentiments expressed at a recent meeting of the central committee of the Paper Workers Association can be taken as expressing the temper of the workers as a whole according to reports received here.

So far paper is still being delivered from stocks on hand at the mills, but the Transport Workers Union has promised a blockade of all plants affected by the lockout, which is to become effective as soon as possible. It may be expected, therefore, says the report, that shipments of paper from the mills involved will soon cease entirely.



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Section of the
Technical Association of the Pulp and Paper Industry
T.A.P.P.I.
Edited by Ronald G. Macdonald, Secretary

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstracts Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C. The charge for this service is as follows: 9 x 11 inches, 18 cents each; 18 x 11 inches, 35 cents each; 22 x 18 inches, 70 cents each; minimum charge, 50 cents. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Power

Mechanical Soot Blowers Essential for Modern Boiler Cleanings. Reginald Trautschold. Paper Trade J. 91, No. 16, 36-44 (Oct. 16, 1930).—A discussion of the advantages of and economies resulting from the use of mechanical soot blowers as compared with hand-lance cleaning, giving comparative costs as actually determined in typical installations.—A. P.-C.

Economical Steam Pressures. L. F. Bunde. Paper Mill 53, No. 42, 14-16 (Oct. 18, 1930).—A brief review of the progress made in the past and a discussion of the theoretical and practical possibilities for the future.—A. P.-C.

Thermal Efficiency in Steam Practice. David Brownlie. Pulp Paper Mag. Can. 30, 509-510 (Oct. 30, 1930).—An explanation of the basic principles of combined utilization of steam for power and heating purposes, showing the much higher efficiency thus obtainable, as compared with production of power by means of a condensing engine or turbine.—A.P.-C.

Strathmore Builds Hydro-Electric Station. Anon. Paper Trade J. 91, No. 18, 120, 122 (Oct. 1930).—A description of the new water-wheel installed by the Stratmore Paper Co. at its Mittineague plant.—A.P.-C.

Power Plant Operation. Anon. Paper Making Special No., 32-42 (1930).—A brief discussion of the advantages of the use of high-pressure steam over low-pressure steam in paper mill, as it permits of the generation of cheap power while the exhaust is used for process work. The different types of electric motors and their respective merits are also briefly discussed.—A.P.-C.

Economies of Using Superheated Steam. Reginald Trautschold. Paper Trade J. 91, No. 12, 44-53 (Sept. 18, 1930).—A discussion in the reduction of power costs effected by using superheated instead of saturated steam.—A.P.-C.

Vacillations in Flue Heat Reclamation Practices. Reginald Trautschold. Paper Trade J. 91, No. 14, 44-50 (Oct. 2, 1930).—A discussion of the present day trend in the use of flue-heat reclamation equipment, showing the increasing tendency to the use of economizers (either alone or in conjunction with air preheaters) rather than air preheaters.—A.P.-C.

Boiler Plant Developments in Strawboard Mill. Harry E. Weston. Paper Industry. 12,703-707 (July, 1930).—A brief description of the new boiler plant at the Noblesville, Indiana, strawboard mill of Ball Bros. Co., and of its performance.—A.P.-C.

High Steam Pressure. John M. Gallalee. Paper Mill 53, No. 17, 4, 21 (April 26, 1930).—An address directing attention to the trend toward higher and higher steam pressure in the pulp and paper industry, giving the reasons therefor, and touching upon some of the difficulties attendant on the use of pressure above 400 lbs. per sq. in.—A.P.-C.

Steam in Paper Mills. F. E. Winslow and W. C. Newman. Paper Trade J. 91, No. 4, 53 (July 24, 1930); Tech. Assn. Papers, Series 13, No. 1, 262 (May, 1930).—A brief discussion of the possibility of increasing power production at low cost by increasing the boiler pressure and expending to the pressure required for process work through an extraction or a non-condensing turbine.—A.P.-C.

Steam Plant Economy. F. C. Farnsworth. Paper Mill 53, No. 15, 22-24 (April 12, 1930).—The author considers that much greater savings can generally be effected by improving steam utilization than by improving steam generation, as the savings effected in the latter case are frequently lost after the steam has left the boiler house. He then discusses the various factors involved in maximum utilization of steam in paper machine driers, as embodied in the Farnsworth system.—A.P.-C.

Use of Heat. Alfred J. Webre. Paper Mill 53, No. 34, 4, 15-17, 20-21 (Aug. 23, 1930).—A general outline of the relations between process heat and power generation in a sulphate pulp mill.—A.P.-C.

Steam Power in Paper Mills. III. A. D. Harrison. Pulp Paper Mag. Can. 29, 475,476 (April 3, 1930).—A brief discussion of power costs in self-contained newsprint mills, showing that the use of by-product steam power in a paper mill is not only a means of cutting down costs, but can be made an insurance against loss of production during temporary breakdown of the hydro power supply.—A.P.-C.

Steam Power in Paper Mills. IV. A. D. Harrison, Pulp Paper Mag. Can. 29, 591-594,620 (May 1, 1930).—An explanation of the method of calculating the efficiency of a steam engine or turbine.—A.P.-C.

Steam and Power Problems. Frederick C. Stamm. Paper

Mill 53, No. 18, 8, 10, 20 (May 3, 1930); Paper Industry 12, 296-298 (May 1930).—A discussion of some of the main items affecting the cost of steam and power in paper mills.—A.P.-C.

Steam Power in Paper Mills. J. F. Ferguson. Paper Industry 12, 479-480 (June 1930).—A brief discussion of over-all efficiency in power generation in paper mills.—A.P.-C.

Drive and Power Units for Paper Machines. Reginald Trautschold. Paper Trade J. 90, No. 4, 30-40 (July 24), No. 6, 44-60 (Aug. 7, 1930).—A presentation of the advantages of steam turbines and of electric motors for driving paper machines, in the form of expressions of opinion manufacturers of such equipment.—A.P.-C.

Heat Insulation. Reginald Trautschold. Paper Trade J. 91, No. 2, 42-53 (July 10, 1930).—A discussion of the importance of proper heat insulation, particularly with the present tendency to the use of high pressures and temperatures.—A.P.-C.

New Filter Plant for Westvaco's Luke Mill. Charles F. Ruff. Paper Trade J. 91, No. 18, 124, 126 (Oct. 1930).—A brief description of the water filtration plant at the mill of the West Virginia Pulp and Paper Co.—A.P.-C.

Coagulation Factors in Water Clarification. F. E. Divine. Paper Trade J. 91, No. 11, 71-72 (Sept. 11, 1930); Paper Mill 53, No. 38, 16-17, 21 (Sept. 20, 1930).—A description of experiments carried out to determine the cause and find the remedy for irregularities experienced in coagulation in the alum treatment of the mill water supply. The results showed that the mixing of the water and alum solution must be very slow so as not to break up the flock after it has once been formed.—A.P.-C.

Travelling Water Screens. J. K. Merwin. Paper Mill 53, No. 39, 14-16 (Sept. 27, 1930).—A brief discussion of their applicability to paper mill service.—A.P.-C.

Miscellaneous

White Water Problem. Anon. Paper Mill 53, No. 20, 6, 32 (May 17, 1930).—A description of the new Bird closed white-water system which is claimed to eliminate losses due to color changes, breaks and shut downs.—A.P.-C.

Technical Control in Paper Board Mill. J. Shuman. Paper Maker & Brit. Paper Trade J. No., 83-84 (1930).—A brief outline of the control required in paper board mills, and more particularly of dyes suitable for beater dyeing and for calendar staining.—A.P.-C.

Control in the Specialty Mill. A. E. H. Fair. Paper Industry 12, 4,476-477 (June, 1930).—A brief discussion of the principles involved in the technical control of paper made to customer's specifications.—A.P.-C.

Measurement of Pollution in Sea Water. H. K. Benson. Paper Trade J. 90, No. 24, 69-71 (June 12, 1930); Tech. Assn. Papers Series 13, No. 1, 239-241 (May 1930.).—For the detection of sulphite waste liquor in sea water, the residual oxygen or oxygen balance has been found very sensitive. By establishing oxygen balance values for nearly unpolluted sea water, a measure of the quantity of pollution may be made in adjacent polluted areas. It affords a quantitative method for evaluating the extent of pollution in a given area and enables a graphic representation of the relative conditions in such an area to be made.—A.P.-C.

New Wood-Fibre Board Mill Ideally Located. Anon. Paper Trade J. 91, No. 84, 86 (Oct. 30, 1930).—A brief description of the mill of the Wood-Fibre Corp. at Lisbon Falls, Me.—A.P.-C.

Powell River Expansion Nearing Completion. J. A. Lundie. Paper Trade J. 91, No. 18, 99-94 (Oct. 30, 1930).—A description of the expansions at present under way at Powell River, B. C.—A.P.-C.

Mead Corporation Spends $5,500,000 at Chillicothe. Anon. Paper Trade J. 91, No. 18, 19-100 (Oct. 30, 1930).—A description of the expansion recently completed at the plant of the Mead Corp., Chillicothe, Ohio.—A.P.-C.

New TAPPI Members

Paul S. Willington is a junior chemist at the Forest Products Laboratory, Madison, Wis. In 1926 he graduated from the University of Oregon, following which he was an instructor at the University of Idaho and a junior at the Bureau of Chemistry, Washington, D. C.

Carl R. Blomstedt is a research chemist for the Bogalusa Paper Company, Bogalusa, La. In 1930 he graduated from the Royal Technical University in Stockholm, Sweden.

Lloyd W. Carpenter is chief chemist of the Manayunk, Pa. mill of the Container Corporation of America. He is a graduate of the New York State College of Forestry and formerly was a chemist for the Flintkote Company in Boston.

C. J. Christiansen has been chief engineer for the Fibre Making Processes, Inc., in Chicago for the past twelve years. He graduated as a mechanical engineer from the University of Wisconsin in 1915 and for two years was an engineer for the Nekoosa Edwards Paper Company at Port Edwards, Wis. Mr. Christensen was formerly a member of TAPPI.

Joseph A. Fux has been chief engineer of Waterous, Ltd., Brantford, Ontario since 1893. In 1882 he graduated from the Technical University of Vienna as a mechanical engineer.

Carl A. Schroeder graduated from De Pauw University in 1930 and is at present a student at the Institute of Paper Chemistry, Appleton, Wis.

Clarence O. Seborg is a junior chemist at the Forest Products Laboratory, Madison Wis. In 1926 he graduated from Montana State College following which he was a chemist for the Anaconda Copper Company.

Philadelphia Quartz Co. to Exhibit

The Philadelphia Quartz Company, Philadelphia, manufacturers of silicates of soda, observing their 100th anniversary, will exhibit at the Thirteenth Exposition of Chemical Industries, to be held in the Grand Central Palace, New York, from May 4 to May 9, inclusive, their numerous brands of this versatile chemical, also their newest product Metso, sodium metasilicate, a loose granular white product completely soluble in cold water. Doucil, a base-exchanging gel for softening water will also be displayed.

In attractive exhibit bottles will be seen the most important of the 33 grades of soluble silicates. The feature, if one may term it so, will be a display of sodium metasilicate—characterizing the trade mark Metso—two vigorous angular figures, representing crystalline structure. Sodium metasilicate has valuable properties heretofore unknown which make it useful in many kinds of cleaning. This particular exhibit will include various articles in industry cleaned by the new alkali.

William H. Buxton will be in charge of the booths. During the week technical representatives will be in attendance, including James G. Vail, chemical director; William Stericker, chief chemist and Dr. T. K. Cleveland. Other representatives attending will include E. A. Russell, sales manager; R. C. Brown, J. C. Russell, J. W. Wichterman, F. H. Bell, J. R. Jones, R. L. Kreyling and H. H. Brandreth.

U. S. Bond Papers in Cuba

[FROM OUR REGULAR CORRESPONDENT]

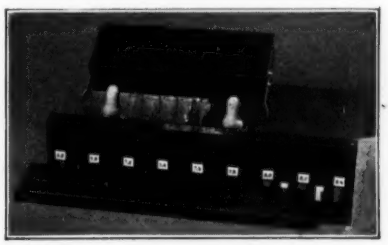
WASHINGTON, D. C., March 25, 1931—United States Assistant Trade Commissioner, Henry at Habana, states that the United States has regained its predominant position in the Cuban bond paper market. Germany and the Scandinavian countries had a strong foothold there between 1924 and 1928, but during the past two years the United States firms have been supplying the greater part of the demand according to the report. While European bond paper compares favorably in the quality of the American, the preferential tariff rate granted on the latter, together with the proximity of the market to the United States, renders it extremely difficult for European firms to compete.

New pH Equipment

As a result of the long and varied experience of their entire organization with pH control equipment and methods, W. A. Taylor & Co. has developed the new Slide Comparator. This instrument is unique in design and construction. Being molded from Bakelite it combines the maximum of durability, precision, convenience and simplicity.

The Slide Comparator consists of two principal parts, the slide and the base. The slide is a Bakelite case 10 inches long, 2¾ inches high and ⅝ inch thick. It contains 17 vertical holes and 17 horizontal slots which pass through the exact centers of the holes. In these holes are placed the 9 color standards for any given indicator and 8 ampoules of distilled water. All these ampoules are held in place by a lid which is screwed on the top of the slide.

The base consists of two parts. The lower part contains a slot in which the slide may be moved back and forth, two holes containing vials of indicator solution, five holes containing test tubes, and a closed compartment for a ground glass plate. Vertical slots run through the three central holes in the base holding the test tubes, these slots corresponding exactly with any three of the slots in the slide. The ground glass is contained in a closed compartment directly behind the three slots in the base. The upper part of the base serves as a cover for the vials and test tubes when the set is not in use. It is fastened to the lower part by means of spring catches.



NEW SLIDE COMPARATOR

In making determinations, the top is removed from the base, three of the test tubes are filled to the mark (5 cc.) with the sample to be tested and placed in the three holes back of the slots in the base. To the central tube 0.5 cc. of the indicator solution is added by means of the pipette and nipple and the contents are thoroughly mixed. The slide containing the color standards is now placed in position on the base and, holding the instrument toward a window or other source of daylight, the slide is moved back and forth in front of the test samples until a color match is obtained. The pH is then read off directly from the values on the front of the slide.

Being molded from Bakelite the Slide Comparator is unaffected by water, acids or alkalis. It therefore will not warp or come apart. Molding also gives it a machined precision that is impossible with wood or sheet metal.

Since the color standards are enclosed in a Bakelite case, there are no loose standards to be inserted and removed in making pH determinations. Thus all chance of loss or breakage from handling individual standards is eliminated. All color standards and test tubes are 11.5 mm. outside diameter. This small equipment makes the set small and compact and therefore readily portable. Of far greater practical importance, however, is the fact that the resulting thinness of layer of material being tested enables one to make accurate determinations on far more highly colored and turbid materials, without dilution, than is possible with larger tubes.

The fact that determinations are made simply by sliding the color standards in front of the test sample until a color match is obtained makes the operation of the set extremely simple so that it is possible to teach a workman to use the set accurately with a few minutes instructions.

Slide Comparators are supplied to cover the pH range 0.2-13.6. Each comparator covers a range of 1.6 pH units, the standards being in intervals of 0.2 pH.

LONG RANGE SLIDE COMPARATOR

The Long Range Slide Comparator was designed to meet the need of those workers who require a portable set covering a wide pH range. This set is made in five models (T-3, T-4, T-5, T-6 and T-7) to cover the range of any 3, 4, 5, 6 or 7 indicators respectively between the limits of pH 0.2 and 13.6, the number after T indicating the number of indicators included in the set.

Each Long Range Slide Comparator contains one complete Slide Comparator; 2 to 6 extra color standard slides; vials of the corresponding indicator solutions, with pipettes and nipples; and a supply of 5 cc. test tubes. This equipment is contained in a portable case 11 inches long, 9½ inches wide and 4½ inches high.

Export Customs

[4] HANDBUCH DER PAPIER- UND SCHREIBWAREN-AUSFUHR. Wilhelm auf der Nollenburg, Export-Kaufman, Dozent an der Humbolt-Hochschule, Berlin. Berlin, Verlag der Papier-Zeitung, Carl Hofmann Gmbh, 1931. 210 p. Price, bound, 7.50 RM.

To those exporters and importers who read German readily, this little book contains a wealth of information regarding the regulations of some 60 countries in Europe, North and South America, Africa, Asia, Australia and Oceania as to the importation of paper and paper products. General information includes the size and population of the country, the principal cities, the banks, the currency and the location of the German consulates (since this was written for the German trade). Special information is given regarding the types and sizes of papers in which the country is specially interested, methods of packing for shipment, the countries from which most of the paper is purchased and the amount imported from each country, the method of calculating the price of the paper, the average prices of various kinds of papers in the various countries, etc. Because of the difficulty of securing accurate information, most of the data are for 1927-1928; comparative data are given in most cases for a five year period.

C. J. WEST.

Power Type Pressure Devices

A pressure gage which embodies dead weight tester accuracy and prominence of calibration together with abundant power for the operation of remote type indicators, recorders and control devices is described in a new bulletin entitled, "Power Type Pressure Devices," which is being distributed by the Bailey Meter Company of Cleveland, Ohio.

The new bulletin No. 70 describes and illustrates Bailey Power Type Pressure devices explaining how the dead weight tester principle is combined with a hydraulic torque amplifier and a Selsyn motor system of long distance transmission.

This power type unit in addition to serving as a pressure gage may be used for the operation of switches or for the direct positioning of small valves, rheostats or other equipment in accordance with pressure. Its principle use, however, as explained in the bulletin is for the operation of a master steam pressure indicating and recording system where it is desired to have a number of indicators or recorders located at various stations.

Differential Pressure Control Catalog

Northern Equipment Company, of Erie, Pa., have just issued a new booklet entitled "Differential Pressure Control," which is profusely illustrated and contains many interesting diagrams and charts.

This booklet is presented to give a clearer understanding of differential pressure control—the maintenance of the correct pressure drop across the feed water regulator valve—as a means of increasing the operating efficiency of modern boilers.

Non-Fibrous Raw Materials for Paper Making*

Developments, During 1930, of Technical and Economic Natures in the Fields of the Non-Fibrous Raw Materials Related to Paper Making

By Arthur C. Dreshfield[1]

This report is a summary of the composite efforts of the individual members of the committee to collect for the Technical Association of the Pulp and Paper Industry, and to present to its members, the important developments of an economic and technical aspect in the non-fibrous raw material fields affecting pulp and paper making, which have taken place during the year just past.

Obviously the committee cannot be expected to guarantee perfect efficiency in collecting each and every item of progress throughout such a wide and varied field. Neither can it guarantee that each of the effects of the advancements which it reports will be widespread in nature and noticed by every unit in the industry.

The report is presented in good faith by the committee members as a summary of the sections of the non-fibrous chemical manufacturing field with which each member is acquainted. The report only includes items known to the trade through commercialization and excludes developments still in the experimental, laboratory, or semi-commercial stage. Secret trade practices are also excluded. If any errors of ommission have been committed the committee as a whole, offers its apologies. Such errors, if any, would be unintentional and due entirely to limited knowledge. If any ommissions have been made, and if Technical Association members feel an annual report such as this will hold their interest, a sincere effort will be made to have chemical manufacturers, technical staffs, and sales organizations cooperate to a greater extent with the committee to insure a thorough canvass of all branches of the various fields.

The developments in the field of the chemicals covered by the committee this year are presented herewith.

Acetic Acid

Consumption in the year 1929 was the largest in the history of acetic acid in this country. Stocks of acetate of lime in January 1928 were 17,596,000 pounds. Increased demand during 1928 reduced this so that in January 1929 stocks were only 1,544,000 pounds. Demand continued to increase during 1929 until near the end of the year. In January 1930 stocks of acetate of lime were up to 15,536,000 pounds and in July increased to 28,666,000 pounds. Coupled with the decrease in business, these facts caused an abrupt fall in the price from $4.00 per 100 pounds in July to a figure in December of $2.00 per 100 pounds.

The tariff act of 1930 increased the duty on acetic acid of less than 65 per cent strength from ¾ to 1⅜ cents, leaving that of 2 cents on the strengths higher than 65 per cent unchanged. Imports in 1929 amounted to about 18 per cent of the country's production. As the major portion of this was in the less than 65 per cent class, we should expect as a result of this tariff an increase in price. The pressure or large stocks with no sales, however, have more than counter-balanced this effect.

Until 1928 production of Acetic acid originated in the wood distilling industry. During that year synthetic production from carbide was first started. One of the results of this competition has been to increase the number of wood distilling plants producing the finished acetic acid rather than the acetate of lime. In general this process is to scrub the acetic acid, by means of a suitable solvent, out of the mixture of acetic acid, water, and wood alcohol, boiled off from the pyroligneous acid which is the first crude condensate. These solvents vary, some plants using wood tar oil, others ether, others ethyl acetate. The acetic acid is then removed from the solvent by distilling off whichever has the lower boiling point. By these methods, the wood distillation industry is keeping up its end in competition with the synthetic product and even now new plants are being constructed for utilizing these processes in Arkansas and Tennessee.

Another development of 1930 has been the construction by Commercial Solvents Corp. of a plant to manufacture acetic acid by the fermentation of cellulose. This plant, it is understood, is not yet in production, but the first unit is soon expected to be.

Alum

The most interesting development of 1930 in this field has been the coming into production of a plant in New Jersey for the manufacture of aluminum sulphate from clay. This is a return to an old raw material in place of bauxite, where it is hoped, by modern engineering methods, to make available again alum from this source. Its development will be of great interest as an example of the possibilities of changing raw materials by improvements in modern engineering methods.

Blood Albumen

Marked improvements have been made in the manufacture of albumin from blood. While the raw stock has remained the same in this case, like it has in animal glue, (q. v.) an improvement has taken place in the processing. Here again chemical control has enabled the manufacturer to guarantee a better uniformity of product and a higher quality material at the same cost.

Casein

The year 1930 will go down in history as having brought unexpectedly low prices in casein, both domestic and foreign. It has been generally stated by producers that the cost of production of casein is between 11 and 12 cents per pound, and barring unusual economic factors it might be expected that the normal price of casein to the consumer would be in the neighborhood of 12 to 14 cents per pound.

Looking back to 1921, at the time of our last severe depression, we find that in early January the price was 11 cents, but that the decline commenced in that month and prices dropped to 6 cents a pound in May, 1921. There was no duty at that time and when comparing this with present prices consideration should be given to the fact that there is a tariff of 5½ cents on casein at present.

The price level remained at about 6 cents for the balance of 1921. In January 1922 prices advanced and continued to do so through the year and in January-February 1923 prices reached the level of 25 cents per pound. It must be noted here that a tariff of 2½ cents a pound is included in these 1923 prices.

It is interesting to note that we had a sharp decline at the time of the depression and that prices were low for about twelve months. These low prices caused a fall in production and in 1922 we had a very severe shortage of casein with the consequent rapid advance in prices.

The year of 1929 found prices fairly stable, ranging between 13 and 15 cents per pound. The duty at that time was 2½ cents per pound. Apparently producers throughout the world found this price level satisfactory and the quantity of casein pro-

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Contribution of the Non-Fibrous Raw Materials Committee.
[1] Chairman TAPPI Non-Fibrous Raw Materials Committee.

duced increased. This was particularly true of domestic production.

Increased domestic production was influenced by several factors, notably overproduction of cheese, dry and condensed milks, and the campaign for winter feeding which was successful in increasing milk production and consequently casein production.

It is undoubtedly true that, in view of the world-wide business depression with the resultant decrease in consumption of raw materials, we might have expected a decline in casein prices. However, we believe that the heavy production of domestic casein was an important factor in the severe reduction which took place in the face of a protective tariff of 5½ cents per pound. We are in fact inclined to believe that the tariff is partially responsible for present price levels for the reason that many consumers anticipated their requirements and imported casein previous to the new tariff. As a result during the period since June we have not had, to any great extent, the support of the buying which might be expected even in times of poor business, and it is noteworthy that the sharpest decline occurred after the new tariff law came into effect.

The quality of domestic casein has been greatly improved through private efforts and also through experiments by the U. S. Department of Agriculture. This department has produced a manufacturing formula called the "grain curd process," which gives an exceptionally high grade casein, with good flowing properties and which does not thin out when allowed to stand overnight. This casein has exceptionally long keeping qualities without the use of preservatives. The adoption of this formula should ultimately result in a much better domestic casein in which consumers will have full confidence.

Clay

The year 1930 has brought about several changes of importance in the paper clay industry. Numerous improvements in mining, processing, etc., have been accomplished during the year which have placed it on a very high plane indeed.

Older mines with inadequate equipment, and diminishing supplies of crude clay have been closed, and new mines in virgin fields opened to take their places. With a much better quality of clay, and with more efficient methods of production, there have resulted, in general, lower prices to the paper trade.

For filler purposes, the clay processed by the older method of water-washing, although the method has been greatly improved over the original process, seems to give the best all around results considering color, retention, opacity, finish, and less wear on machine clothing. Due to the slow process of flotation, settling, and decanting in the manufacturing of water-washed clay, much greater uniformity can naturally be obtained and most of the impurities in the crude clay removed. Other methods of purifying are not as efficient because of the close specific gravity of the clay to that of the foreign materials.

The improvements in water-washed clay that eventually show up in the finished product are increased washing and settling times, control of the drying which not only gives low uniform moisture but removes the hazard of overdried clay. Overdried clay has little value as a paper filler or coating clay. More efficient blending of the crude clay can be maintained, resulting in greater uniformity. Larger stocks or inventories of finished clay can be carried at the mines because water-washed clays are less bulky and easier to store. This factor should be considered because of the torrential storms so prevalent in the South during certain seasons of the year, and when paper mill inventories are reduced to a low tonnage. Sometimes the space of one car is all that is allowed in the storage bins at the paper mill.

The method of purifying crude clay by pulverizing and air-floating has been developed considerably during 1930. Manufacturers of equipment for treating crude clays in this manner claim very good results, and feel that they can remove all foreign material like sand, silica, mica and grit. Some paper mills, having adequate dilution or washing systems in their plants, and by screening in series, have obtained good results. Mills adding their loading agents direct to the beaters and mills who have researched into the final results obtained from a clay of this type of manufacture, have continued with the older type of improved clays for filler work.

Certain producers of domestic clays have such a flexible method of production that they are able to give the paper manufacturer a choice of either water-washed or air-separated clay, leaving the determination of efficiency and ultimate results up to the customer. There are arguments for and against air-treated clays, and it appears that it is a matter for each individual mill to decide which processing their clay should receive.

One argument in favor of air-floated clays is that they sell slightly under the price of water-washed clays, but on the other hand they are fluffy, more cumbersome to unload and harder to store, besides, the size of the grit particle is reduced by pulverizing, and while a portion of this grit is removed, some of it remains and, being of an abrasive nature, naturally it has its effect on the wires, felts, etc.

A method of flaking, by the addition of water to air-floated pulverized clay, and running through rollers on a belt conveyor, has been tried as a means to overcome the fluffy condition of air-treated clays. This method has worked with some success, although the moisture will run higher in this type of clay than the moisture in water-washed and treated clays. Again this puts the problem of what type clay to use entirely up to the consumer, who should use every precaution in determining the clay best suited for his papers.

Starting into 1931 it seems that mills are more anxious to contract with reputable producers than ever before. It seems probable that the various types of clay, from pulverized crude to highest grade filler and coating clays, have reached bottom as far as price is concerned, but that improvement of quality has not reached its Nth point and that 1931 should bring continued development along these lines.

Foam Killers

The intensive study of the products obtained from the oxidation of paraffin waxes under certain controlled conditions has opened a new field of compounds which seems to possess potential value as defoaming compounds for use in pulp, paper, and coating mills.

In the field of coated papers pine oil, made water dispersible by admixture with such compounds as sulphonated castor oil, has been offered as a material to kill foam in the coating colors and reduce pin holes in the coated paper.

Glue and Gelatine

A summary of the information gathered during the investigation of the uses of glue in the paper industry by the National Association of Glue Manufacturers Fellowship at the United States Bureau of Standards has been published by the Glue Research Corporation in pamphlet form under the title of "The Uses of Glue in the Paper Industry." In addition to this the following is offered as developments in this branch of chemical manufacturing.

The raw stock (hides, bones and tissues of animals) from which animal glue and technical gelatine are obtained is essentially the same today as always. While there have been no startling discoveries of new or substitute raw materials, the industry in general has been alert in the development and application of scientific principles.

The industry has made extensive studies of glue problems as they affect the largest glue consuming industries. The results, while encouraging and in the right direction, warrant further research before they will become tangible enough to pass on to the trade.

Within the last few years, the old and relatively haphazard rule of thumb methods have been superseded by strick technical control throughout the entire manufactuirng process. The old conception of starting with given raw material and treating by certain prescribed methods in order to obtain a definite or even uniform finished product has been proved erroneous. Careful technical control in the modernly equipped factory eliminates errors in processing, helps to standardize results and affects economy to the manufacturer through insuring a higher testing finished product from the same raw stock.

Standardized methods of glue testing are of recent development. Within the year, the technical committee of the National Association of Glue Manufacturers has revised for its own use the current testing methods, which covers both the technique of testing and the apparatus used. The physical properties constituting the intrinsic value and the working adaptability of glues are by these methods all determinable within narrow limits. This improvement makes possible closer co-operation between glue producers and allows them to set up narrower grade limits which will better fit the specific conditions prevailing in a customer's plant. More improvement in this respect has been accomplished in this country than in any other, as evidenced by the very broad range covered by one single grade of foreign glue.

Regardless of the amount of care given the manufacturing process, it is still necessary to grade the finished glues as definitely as possible and practical. The improved testing methods permitting very close grading have so narrowed grade limits that, within any one grade, a glue testing at the upper limit can not be told from a glue testing at the bottom of the next grade range when both are put into practical production under identical conditions. This uniformity of material will naturally lead to better and more consistent results in the consumer's plant.

Lime and Limestone

In the sulphate and soda processes, attempts have been made during recent years to reburn lime carbonate sludge, with more or less success—the principal obstacle being a physical effect apparently caused by the repeated burnings, which seriously affects settling. About 10 per cent new lime must be added to the reburned lime.

In the sulphite process, there seems to be a trend to the milk of lime process, using high magnesium lime. It costs less to install; magnesium bisulphite is more stable than calcium bisulphite, liberating the sulphur dioxide more gradually, permitting higher temperatures and allowing the cooking process to be brought to actual completion without injury to the fiber. Rejections are reduced and investigation has revealed actual reduction in sulphur consumption due to lower percentages of screenings. The more uniform cooking made possible with magnesium bisulphite undoubtedly produces a softer, whiter pump, more pliable and more easily bleached. About 30 out of 80 mills are now using the milk of lime system.

The tower system, using high calcium limestone, was actively and successfully promoted during the war, one reason for its success being the shortage of fuel for lime burning at that time.

The last several years have seen a radical change take place in the use of lime for the manufacture of bleach, bleaching powder being gradually displaced by the use of liquid chlorine and quick lime or hydrated lime at the mill.

Nitric Acid

The change in methods of manufacture of this chemical already visible in previous years has gone ahead with increased rapidity. In 1927, 91,000 tons were manufactured practically all from nitrate of soda. In 1930 it is estimated that this will be cut to 50,000 tons which is a smaller percentage of the total production than is indicated by the figures above, which are from the latest census available. The production of anhydrous ammonia on a large scale by two plants has cheapened it so that it becomes a suitable raw material from which to manufacture nitric acid. Whereas the original nitric acid plant using ammonia was a large one operating under ordinary or only slightly increased pressures, there has been a tendency during 1930 to change to high pressure plants which are smaller. This has given an impetus to the development and manufacture of chrome and other alloy steels, thus having a repercussion on the metallurgical industry.

Pyrites

In addition to the development by Rio Tinto (q. v. Sulphur), the most interesting feature of Pyrites in 1930 has been the further development of a burner for burning pyrites operating much the same as a powdered coal burner. It has been developed in Canada in connection with pulp plants and it is understood that most of the difficulties have been ironed out. The opening up of large low grade copper mines from which a by-product pyrites is obtained in Canada, together with the development of a simple burner, have had a decided effect on the paper industry in that region.

Rosin

Even during the time of declining prices when many commodities are selling below the cost of production the decline in the market price of rosin is outstanding. While it may sound stereotype to say that the decline in price was caused by "supply and demand" there is no question, but what this has had a decided effect in the case of rosin prices.

The first thought is to blame the present "business depression" and this of course is one of the contributing causes. Various methods are used to indicate relative percentages of business activity above or below normal and as late as July 1930 the index was reported by one authority at about 8 to 10 per cent below so-called normal. During 1929 the level was perhaps 15 per cent above normal so the total decline by July 1930 was around 25 per cent. During the same period rosin had declined 50 per cent in value while the average of all commodities had not declined nearly that amount.

Export demand is important as illustrated by the fact that rosin exports are reported as 1,365,807 barrels for the season 1929-1930 out of a total crop of 2,081,000 barrels. The total domestic consumption was reported for the same season as probably around 1,000,000 barrels. The apparent discrepancy in total is probably made up by imports. Present existing low prices have stimulated the export demand, but with conditions in Europe being relatively poor, the total exports at the present are not nearly as large as would ordinarily be expected. Changed demand then, has accounted for a large portion of the declining prices, but can not bear the entire blame. This leaves "supply" as the second factor.

Throughout the year weather conditions have been favorable for the flow of gum from the pine trees with a resulting large production of rosin. Even the drought last summer did not seriously curtail rosin production. Low prices have meant meagre returns to producers of rosin, and the producers in turn have worked trees to the utmost in order to get every dollar possible out of their operations. Labor in the naval stores belt has been both plentiful and cheap. Workmen have been anxious and ready to work and have probably worked harder so as to be sure of a job. Nature has done her part by causing the gum to flow plentifully, with a resulting large crop.

The present crop may not equal the banner year of 1927-1928 when the production reached 2,165,000 barrels, but the total is sure to be large. With curtailed demand the result is that stocks have built up steadily since the beginning of the season in April 1930. As an illustration on April 30 the stocks of rosin at Savannah were reported at 58,761 barrels. At the present time, December 23, the stocks are 197,053 barrels. The production during January, February, and March will no doubt be light so it can reasonably be expected that the stocks will be reduced by March 31 when the Naval Stores season ends, but it is almost

certain that stocks on that date will be much larger than the average of the past few years.

Taking "G" grade gum rosin as an illustration, the unit price during the years 1928 and 1929 fluctuated between $8.70 and $7.10. In October 1929 at the time of the "stock market crash" "G" rosin was quoted at $8.00. The first effect of the "crash" was to cause rosin prices to decline. The decline was at first comparatively mild in nature and even at late as the beginning of April 1930 we found "G" rosin quoted at $7.25 per unit. But from that date onward the rosin market witnessed one of its sharpest declines in history. "G" rosin dropped from $7.25 in April to $3.90 on August 13, or to less than 50 per cent of the price at the time when the present "business depression" made itself evident in October 1929. Since that time the market has been irregular holding in general slightly above $4.00.

Much has been said about the necessity of "industry cleaning house" and lowering prices in order to get business. With rosin at considerably below pre-war levels, it certainly can not be said that the naval stores industry has been laggard in doing its share toward lowering prices. The resulting low prices in rosin give the paper manufacturer his rosin size at the lowest price in years.

Rosin Size and Engine Sizing

Rosin size is still the practically undisputed monarch of the engine sizing field. The cyclic swing from high free rosin size to neutral size and back back again, which can be traced through the past years seems to have come to equilibrium. As might be expected, the equilibrium point has been a compromise in the form of medium free rosin size. It can be safely said that the major portion of the rosin size used in the American mills today is cooked within a percentage range of alkali equivalent to 12-14 per cent soda ash. The greater portion of the remaining minority is cooked with a higher percentage of alkali while extremely high free rosin size is the least used of all.

The engine sizing field has witnessed, during 1930, a remarkable form of activity manifested in the appearance of many variations of an old theme. So called new sizing methods have sprung up like mushrooms.

In the field of rosin as a sizing agent, 1930 has witnessed several new methods of handling the raw materials and converting them to a saponified or water dispersible form. As examples, one process produces an extremely high free rosin size which is practically a colloidal dispersion of pure rosin broken down in a colloid mill and stabilized with small amounts of such materials as casein treated with caustic soda or other similar alkalis. Quite contrary in character is the sizing produced by another process which prepares rosin sizing by passing, at a constant rate, a solution of caustic soda held at constant strength and temperature over crushed rosin in a patented mechanical system. The resulting sizing contains approximately 1/3 of a pound of rosin per gallon and in addition a certain amount of free excess alkali.

Another process of a secret nature introduces directly to the furnish a rosin size in the form of a jelly which contains 25-35 per cent of rosin cooked with a standard alkali, but to which is added in addition one or two per cent of a product of a secret nature.

A still different process grinds dry rosin and dry caustic in a ball mill to which is then added water and the mixing continued in the mill until the saponification reaction is practically complete.

Several agents, used supplementary to rosin size, have been developed and offered to the paper making trade. These are all of a waxy nature. One of these products is a wax size which is essentially an emulsified wax, stabilized with alkaline soaps and a colloidal clay. Such emulsions are prepared either from low grade oily wax or from the high grade paraffins.

Along these same lines paraffin admixed with varying percentage of montan wax has been emulsified with alkalis and used either supplementary to rosin size or in some cases incorporated directly in the rosin size in varying proportions.

As a result of other researches in the development of a colloidally dispersed wax for use supplementary to rosin size, there have been produced sizes composed of unsaponified oxidized paraffin waxes made water dispersable by the saponification of the organic acids simultaneously produced by the oxidation as conducted. This process, which has been covered by American and foreign patents, yields products which can be used as surface, calendar, or tub sizes in addition to engine sizing.

As the majority of these new processes and products have only become known within the last year or so, the trade is still being circularized with the various claims for advantages of one process over the other and the counter dissenting claims of disadvantages. Obviously it is without the scope of this committee's report to try to balance the claims of the advantages and the disadvantages against the facts. Perhaps this committee's report, covering the year 1931 will be able to show which of those processes have survived and which have not.

Above all the activity of a technical nature, there looms one important economic aspect. Although certainly not common to rosin size itself, but rather reflecting the general trend of all commodities, because of the facts listed elsewhere in this report rosin (q. v.) has been available during 1930 at a price near to the low of all times. As a result, rosin size costs have been reduced proportionally and the mills have enjoyed, and still are enjoying, the use of rosin size at the lowest price in many years.

Salt Cake—Sodium Sulphate and Nitre Cake

The changes in the methods of nitric acid manufacture mentioned elsewhere (q. v. nitric acid) had a profound influence on the salt cake production. The chief sources of this material have been in the manufacture of muriatic acid either from salt and sulphuric acid or from nitre cake and sulphuric acid. For a given output of muriatic acid about twice as much salt cake is made in the second case as in the first. The manufacture of nitric acid from ammonia has cut down to a large degree the available nitre cake in turn causing a lessened production of salt cake. German production is chiefly a by-product of the magnesium sulphate liquors obtained in the potash industry. This is of course not effected by the above consideration, but the quick change in nitric acid manufacture coupled with the increase in world production of kraft paper caused a decided shortage of salt cake during 1929. It is estimated that the production of kraft paper in the U. S. increased from 188,000 tons in 1920 to about 1,000,000 in 1929. Plans have been announced for increasing German production.

Furthermore the development of natural salt cake deposits which, in the U. S., are mostly in the west and southwest, have been announced. One company has already engaged in this business in Arizona.

Imports of salt cake in 1927 were 11,171 tons which increased in 1929 to 91,144 tons. The first quarter of 1930 showed an importation of 24,494 tons, which is at a yearly rate of 96,000 tons. It is doubtful whether on account of the depression this figure will be reached.

About 20 per cent of our production is exported to Canada so that the Canadian situation is of importance to us. An important factor in Canada has been the increasing use of nitre cake for a flux at the nickel plants. Canadian imports have been as follows:

Year	Imports by Canada
1927	13,143 tons
1928	36,561
1929	80,872

At the plant using this nitre cake in Canada there is plenty of sulphuric acid available as a by-product. The project has therefore been developed of finding natural sodium sulphate in Saskatchewan, bringing it to the nickel plant and there making it into nitre cake. It is understood that Saskatchewan has reserves

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of 100,000,000 tons and that a plant has been projected for a yearly production of 36,000 tons of salt cake. A recent political overturn in Canada has brought into power a government which leans toward protection. The result has been that on November 1, 1930, a tariff of $12.00 per ton of salt cake was placed on imports, thus completely shutting out the American producers. The loss of this market will make larger supplies of sodium sulphate available to American plants and thus help to correct the shortage caused by the dropping out of nitre cake as a large factor.

Sodium Aluminate

In the paper mill the chief use of sodium aluminate has so far been in the purification of water to give a product nearer the normal pH value of natural waters. It is believed that uses are being developed in connection with sizing and with the better retention of fillers and fine fibres.

Sodium Bisulphite

There have been no outstanding developments in this material in 1930.

Sodium Sulphide

There have been no particular developments in this material of very recent date. The tendency during the last few years has been the supercession of the old method of manufacturing sodium sulphide from sodium sulphate, by the by-product obtained from the newer method of production of barium salts, whereby barium sulphate is changed to barium sulphide and the desired barium salts precipitated by the addition of the corresponding soda salts, thus furnishing as a by-product, sodium sulphide.

Starches

The section of the Technical Association committee on Non-Fibrous Raw Materials, having as an assignment adhesives such as glues, starches, mucilages, dextrines, etc. reports that the past year has produced no new products that have revolutionized the art of paper making nor have there been discovered any new products pronouncedly superior to those which were available a year or more ago.

Notwithstanding the preceding statement, very definite progress has been made, but it has been the progress that follows the more successful use of materials selected with greater knowledge as to their special possible services and also the greater knowledge as to best method of use to obtain the greater service. This applies to the several adhesives used in the manufacture of paper, such as glues, starches, casein, etc.

New conversion products have been developed from a starch base exceeding in service possibility anything available several years ago. These are very successfully replacing both animal glue and casein at approximately half their cost. This certainly indicates improvement in service qualities of raw materials and the user benefits by a more intimate knowledge of inherent differences in the several types of converted starches, as for example, whether when heated with water they form solutions that will film over the entire surface or will form only pastes of suspended particles which can act only in local areas. These differences factor not only in securing the greater strength gain but also in overcoming warping or curling.

Sulphur

In addition to the original plant of the Texas Gulf Company, and the plants of the Freeport Company, Duval Texas Company, and Union Sulphur Company, Texas Gulf has brought in a new plant at Newgulf, Texas. The American Cyanamid Company in conjunction with one of the oil companies, was understood to have started to develop sulphur in Louisiana, however, the latter project has been abandoned by them. During 1929 practically all of the sulphur came from Texas, but Louisiana may again take its place as one of the producing centers. Another interesting development in the sulphur field has been the announcement by Rio Tinto Limited of Spain of its decision to change from the production of pyrites to that of by-product sulphur. The extension of sulphur recovering plants, particularly sponsored by the Koppers Company, at various coal-gas plants has brought onto the market an extremely finely divided form of sulphur which is said to have particular application in the insecticide field. In Europe processes have also been developed which recover the sulphur from coal-gas together with ammonia directly in the form of ammonium sulphate without going through the process of making sulphuric acid.

Sulphuric Acid

In spite of the loss of some of its market the production of sulphuric acid in 1929 was 6 per cent higher than that in 1928, amounting to 7.925,000 tons. Since the increase in the price of sulphur several years ago, there has been a tendency, particularly in the sea coast plants, to revert to the use of pyrites. This is shown as follows:

Year	% of Sulphuric Acid made from Pyrites
1925	15.4
1926	17.9
1927	16.2
1928	21.8
1929	20.6

The use of pyrites involves more complicated systems of burning and gas purification, but apparently many companies have felt that the cost differential justified this.

Chlorine And Bleaching Powder*

By Robert T. Baldwin [1]

The outstanding development in the use of chlorine and its compounds in 1930 is the increasing use of these substances for slime control. At this time at least 75 mills are using chlorine in some form for this purpose. Each mill has its own particular problem. To date the average chlorine requirement is from one to two pounds of chlorine per ton of finished product. The advantages reported are as follows: *a.* Increased use of white water, *b.* Reduced shutdowns for cleaning, *c.* Reduced loss of production due to bad breaks, stains, spots etc., *d.* Increased life of felts, and *e.* Reduced stream pollution.

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Contribution of Non-Fibrous Materials Committee.
[1] Assoc. member TAPPI, secretary of the Chlorine Institute, Inc., New York, N. Y.

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(Note: This contains no items on two related subjects, i. e., chlorination of condenser water, and chlorination of pulp wood and groundwood pulp for relief from fungi, decay, etc.).

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Lime and Limestone in the Pulp and Paper Industry*

By O. L. Cook [1]

Limestone

From the earliest times, limestone and lime have played a most important part in the chemical industry. Being the cheapest and most abundant alkali, it is sometimes aptly termed the queen of bases.

Limestone can be defined, for practical purposes, as a rock—composed principally of calcium carbonate. Its composition varies from pure calcium carbonate ($CaCO_3$) to pure dolomite ($CaCO_3$. $Mg\ CO_3$). While true dolomite is actually the double carbonate of calcium and magnesium, it is the custom to call stone high in magnesium, dolomitic limestone. The carbonates of calcium and magnesium occur together, either combined or mixed in varying proportions. All commercial limestones contain impurities in some degree, either as separate minerals or in combination with the calcium or magnesia. The commonly known impurities are silica; alumina; clay; the sulphides, oxides, and carbonates of iron; sulphur, and phosphorous; magnesium carbonate being classed as an impurity when high calcium stone is concerned. The color of limestone and lime is largely caused by these impurities, and, in general, this color has little relation to quality—though stone and lime are often needlessly rejected because of a peculiar or unfamiliar color.

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While there are many varieties of limestone, two classifications should be sufficient for the purposes of the paper industry, namely: high calcium, which should be relatively free from impurities and contain not less than 90 per cent calcium carbonate, and high magnesium, containing not less than 25 per cent magnesium carbonate. Limestone is sometimes classed according to its most abundant impurity, such as siliceous limestone, phosphatic limestone, magnesium limestone, aluminous limestone, etc.

Limestone occurs in all geological formations, but in general is not very plentiful in Palaezoic rocks until the carboniferous system is reached. In North America a considerable quantity of magnesium stone is found in the Cambrian system, but the most important deposits occur in the Silurian system, the lower Silurian and Ordovician systems including the marbles of the New England States, and the most important limestones of New York, Pennsylvania, and New Jersey. These systems also include much of the magnesium stone so plentiful in Wisconsin, Minnesota, Michigan, Iowa, and Missouri. The most important deposits of high calcium limestones are found in the Carboniferous system in Indiana (where the famous Bedford Oolitic stone occurs), Michigan, Missouri, and Pennsylvania. Cretaceous limestones or chalk is found in Colorado, Oklahoma, Texas, and Kansas, but is of little commercial importance. The United States Geological Survey estimates that approximately 15 per cent of the total area of the United States is underlaid with limestone, but the over-burden is so thick over a large proportion of this area that quarrying is economically impractical.

Uniform composition and texture can not generally be expected in any limestone formation.

Quick Lime

Quick lime is made from limestone by subjecting it to a sufficient temperature to drive off the carbon dioxide, the result being calcium oxide and magnesium oxide, according to the composition of the stone treated. Kiln temperatures vary from 1200 to 1400 deg. C., the lime being about 50 per cent of the weight of the original stone. It is interesting to note that the impurities lose practically no weight in the burning process which means that the quick lime contains almost double the percentage of impurities as the stone from which it is made. Theoretically one ton of pure calcium limestone should yield about .54 ton of pure lime, and dolomitic limestone .52 ton. If the burning temperature is too high, the lime will be overburned or fused with the silicates and other impurities, and if the temperature is too low, it is underburned and contains unburned limestone or core. As the proper temperature and time of treatment varies with the stone, it is imperative that the stone as selected in the quarry be graded according to texture and composition. The rate of cooling after the lime has been drawn from the kiln also has a profound effect on the quality of the oxide for chemical purposes. Excepting magnesium lime as such, the total impurities in quick lime or calcium oxide should not be over 5 per cent in selected lime or 8 per cent in run-of-kiln lime.

When the variable nature of the limestone itself and consequent impossibility of uniform operating practice are taken into consideration, the advisability of securing lime for chemical purposes from reliable manufacturers, employing thoroughly scientific methods, cannot be too strongly emphasized.

Hydrated Lime

Hydrated lime is made from quick lime or calcium oxide, the process involving the addition of water, which combines with the lime to form calcium hydroxide. This operation requires considerable skill to accomplish complete hydration and insure against burning the lime by local overheating, and can only be economically undertaken by the consumer having large daily requirements. The design of the equipment necessary will be governed by the individual case, and any reliable lime producer should be able to give what assistance is desired.

Hydrated lime, as produced by the manufacturer, contains only enough water for chemical combination plus a slight excess to insure against a deficiency, and is packed in heavy paper bags as a dry white powder of extreme fineness, 98 per cent usually passing 200 mesh. The principal advantages to the consumer are as follows: It will keep much better than quick lime. It can be handled and stored more easily. It does not require slaking or hydrating, and has only to be soaked in water to prepare it for use. This saves labor and time and eliminates any loss due to improper or unskillful hydrating. Unburned or overburned lime will not hydrate and is eliminated from the finished product by screens and air separation, resulting in less waste. In many processes, such as the production of bleach liquor or calcium hypochlorite, the 50-pound bags of hydrated lime save time and labor by eliminating the necessity of weighing.

Transportation

Limestone is shipped in gondola cars and may be stored in the open until required. Quick lime, sometimes called lump lime, must be shipped in paper lined, tight box cars and covered with paper to prevent deterioration. If it is not used direct from the car, it should be stored in a dry place as free from air circulation as possible. From twenty to forty tons can be loaded in a car. Quick lime is usually shipped in bulk, crushed to any size desired from ten inches down, or, where requirements are small, in wooden barrels or steel drums. Some experiments have been made with pneumatic unloading of finely crushed quick lime with more or less success. It is doubtful whether the expense of such equipment would be warranted unless it could be used for other materials as well.

Hydrated lime is packed in heavy paper bags measuring approximately 27¾ inches by 18 inches by 5½ inches, or about 1¼ cubic feet, and weighing 50 pounds. It is shipped in box cars, a minimum car taking the carload rate, being 15 tons, and a large car about 35 tons. In some sections a better rate is offered on a minimum car of 20 tons.

Storage

Allowing for irregularities in piling, each sack of hydrated lime with require approximately 1½ cubic feet. If possible, hydrated lime should not be piled higher than 6 feet as the bottom bags will sometimes burst if subjected to a greater weight. The storage room should be dry and free from undue circulation of air as considerable recarbonation can take place through the paper bags. This recarbonation is especially detrimental to settling and absorption where the hydrate is used for chlorine bleach. Care should be taken to pile the fresh lime so that the oldest stock is used first, and a tarpaulin covering is helpful in preventing air circulating about the sacks. Hydrated lime stored in this way will keep for a reasonable length of time without appreciable deterioration. Quick lime must be stored in a dry room or tank as free from air circulation as possible to prevent air slaking or recarbonation. It should be covered with paper if possible, especially if it is to be stored long. Limestone can be stored in the open satisfactorily.

Principal Uses in the Paper Industry

Limestone, quick lime, and hydrated lime as used in the paper industry, are for causticizing; treating water and mill wastes; cooking rag stock and straw; satin white; and in the production of sulphurous acid, and calcium hypochlorite or bleach liquor.

The Soda Process

Quick lime or caustic lime (CaO) is used in the sulphate and soda processes for converting sodium carbonate to caustic soda. $Ca(OH)_2 + Na_2CO_3 = 2\ NaOH + CaCO_3$.

In the soda process, the wood chips in the digester are cooked with a caustic soda solution of about 10 deg. Bé. at 60 deg. F., the spent liquor being drained from the chips after treatment, thickened by evaporation, and given a furnace treatment to remove organic matter. The resulting ash is then leached, and the dissolved soda ash transferred to causticizing tanks, where it is

treated with quick lime, fresh soda ash being added to make up for the loss. About 600 pounds of lime are required for each ton of pulp produced.

The Sulphate Process

The sulphate process is essentially the same as the soda process except that sodium sulphate is used in place of soda ash to make up losses. This produces a very strong pulp known as kraft, used for making heavy wrapping papers.

Quick lime for both the soda and sulphate processes should be as high as possible in available calcium oxide, and correspondingly low in impurities. Available calcium should not be confused with total calcium, as in some cases a lime testing higher in total calcium oxide content will actually contain less available oxide. This is due to physical characteristics and to some of the calcium being combined with the impurities. It is also essential that the lime settle out rapidly. This quality can best be determined by trial, as the physical make up of the stone from which the lime is made and local conditions at the mill are important factors.

Attempts have been made by several operators during the past several years to reburn the lime carbonate sludge, with more or less success, one of the chief obstacles being a physical effect apparently caused by the repeated burnings, which seriously affect the settling. About 10 per cent new lime must be added to the reburned lime.

Water Treating

For water treating purposes, any good quick or hydrated lime of the high calcium type can be used, hydrated lime being preferred in most cases, because it can be handled and stored more economically. The American Water Works Association recommends that hydrated lime should have at least 90 per cent available calcium hydroxide $Ca(OH)_2$; and quick lime at least 85 per cent available CaO, for this purpose.

Cooking Rag Stock and Straw

For cooking rag stock, either quick lime or hydrated lime may be used, the hydrated lime being more easily handled and stored. The lime is used to dissolve dirt and impurities, to saponify greases, and to destroy any wool that may have passed by in the sorting. The low solubility of lime insures against too vigorous a treatment of the fiber and results in a higher yield. About 400 pounds of lime are required for 5000 pounds of rags.

For cooking straw, for the manufacture of strawboard, either quick lime or hydrated lime may be used, the quick lime being more economical where consumption is large enough to prevent undue deterioration by air slaking. Both high calcium and magnesium limes are satisfactory, the calcium lime being thought by some operators to make the fiber more brittle because of its faster action. Local conditions should determine which type is the more economical. About 500 pounds of lime are required to treat one ton of straw.

Satin White

For the manufacture of satin white, an extremely pure, white, high calcium hydrated lime should be used. It should be practically free from both iron and sand, and settle as slowly as possible. If there is even a trace of iron, a yellowish tinge will result. This, however, can be neutralized by a small quantity of blue dye. To a cold milk of lime under constant agitation, a cold solution of aluminum sulphate is added. The mixture is then heated, the reaction itself being exothermic—the mass becoming very thick.

Sulphite Process

In the sulphite process, two methods are used, namely the tower system and the milk of lime system. There are advantages claimed for each.

The tower system was actively and successfully promoted during the war, the principal reason for its success being the shortage of fuel for burning lime. There seems to be a trend toward the milk of lime system lately, and certain improvements in the process may see it grow in favor. About 30 out of 80 mills are now using the milk of lime system.

In the tower system, sulphur dioxide gas from burning sulphur is passed through a high tower filled with high calcium limestone, water being sprayed down through the tower, absorbing the gas, part of the limestone forming the base, to produce calcium bisulphite. A high calcium stone must be used as magnesium will separate out and clog the tower. In considering the relative merits of this system, it should be remembered that limestone weighs twice as much as lime and if it has to be hauled any distance, the freight will cost as much as the stone itself, in addition to higher handling costs.

In the milk of lime system, which incidentally costs less to install, the sulphur dioxide gas is introduced into a milk of lime, preferably high in magnesium, forming magnesium bisulphite, which, being more stable than the corresponding calcium salt, liberates the sulphur dioxide more gradually, permitting a higher temperature and allowing the cooking process to be brought to absolute completion without injury to the fiber. Rejections are thereby reduced with consequent increase in yield of fiber. Contrary to the opinions of some advocates of the tower system, investigation has revealed actual reduction in sulphur consumption, due to lower percentage of screenings. The more uniform cooking made possible with magnesium bisulphite, undoubtedly produces a softer, whiter, pulp which is more pliable and more easily bleached. The sulphates or monosulphates remaining in the magnesium liquor and which are troublesome and hard to remove in a calcium liquor, stay in solution and are easily washed out.

Being connected with the lime industry and naturally interested in increasing the use of lime by the paper industry, the writer realizes that the sincerity of the foregoing statements may be questioned. However, the facts as the writer has had them presented to him by technical men connected with the paper industry, are so strongly in favor of the milk of lime system as to justify presenting them for consideration of those interested.

Bleach

The past several years have seen a radical change take place in the use of lime for the manufacture of bleach. The use of bleaching powder has been gradually displaced by the use of liquid chlorine and hydrated lime or quick lime at the mill. Approximately 75,000 tons of hydrated lime or quick lime are now used for this purpose. This change has brought about a large saving to the paper industry as bleaching powder will only absorb and carry about 38 per cent chlorine, the other 62 per cent being hydrated lime, resulting in high freight charges on a relatively low volume of chlorine. The new method involves the purchase by the mills of chlorine gas, concentrated in liquid form, in tank cars or cylinders, the lime being secured locally at a price very much under the cost of bleach powder. Using liquid chlorine and lime, it is possible to produce stable solutions of calcium hypochlorite as high as 40 grams per liter.

It is very essential to have a lime which will settle rapidly and to a minimum depth, as well as to give maximum absorption of chlorine. A poor settling lime, producing an excess volume of sludge, means unnecessary loss of chlorine, and with chlorine costing as much as $60.00 a ton, it is poor economy to purchase inferior lime because of a saving of a dollar or two a ton when the best grades can be secured from $10.00 to $15.00 per ton delivered, depending on the distance it must be transported.

Besides having a high calcium content, bleach lime should be particularly low in magnesium and iron, MgO and Fe_2O_3, as both these impurities form unstable combinations with chlorine, which are detrimental to settling. Even though being inert, silica and calcium carbonate are also undesirable as they increase sludge volume and cause excessive wear to pump equipment. Chemical analysis alone will not determine what lime is suitable, as physical characteristics are far more important, and likewise more difficult to determine and evaluate. The best method of selecting a satisfactory lime is probably by actual use, providing the lime

to be tried meets the chemical requirements. The writer has known lime to be very satisfactory at one mill and unsuitable at another; individual methods, water, temperature, liquor strength, etc., probably having considerable effect. In general, a dense lime will be found to be more satisfactory, even though its absorption might be a little lower than a less dense material as satisfactory settling can be considered a more important factor. With chlorine costing four times as much as the lime any sludge loss due to the lime must be multiplied by the value of the chlorine. A simple density test is to take 100 grams of broken up quick lime and add 60 cc. of water, which, allowing for the water lost in steam through the heat of the reaction, will hydrate the lime to a dry powder. A dense hydrate should not bulk dry over 200 cc. Some limes will bulk over 250 cc. when tested in this manner, and if time is not a factor, it can be used satisfactorily, settling and full chlorination being very slow as a rule.

Hydrated lime, due to its keeping qualities and advantages in handling and storage, is probably more suitable for the mill with average requirements. Though where consumption is large enough to warrant, quick lime can be economically used and an appreciable saving accomplished. Proper slaking or hydrating equipment should be installed, it being practical to hydrate an entire carload at a time, consumption warranting, obviating the necessity of an extra handling and storage. Some quick lime is pulverized and shipped in multiwall jute and paper bags, but the cost of these bags makes it compare unfavorably with quick lime in bulk. Quick lime can be crushed to any size desired and shipped satisfactorily in bulk.

Some mills using quick lime utilize the chlorinating tanks for slaking, but this practice is not entirely satisfactory as it greatly decreases the capacity of the system, besides retaining the heat of reaction, where quick lime is used, so undesirable when an excess of temperature is liable to bring about decomposition, especially during the Summer months.

Separate equipment for hydrating is more satisfactory for several reasons, the principal one being that it can be designed to use a minimum quantity of water, thus driving off a large part of the heat of reaction which approximates 770 calories per gram, with pure calcium oxide. This can also be accomplished by extra capacity equipment to take care of cooling, the relative merits of this method depending on lime consumption. It is very important that the lime should be dumped into the water—since, if the water is added to the lime, steam pockets may form and cause an explosion. A serious explosion of this nature occurred this year at one of the mills—fortunately, without loss of life.

The ratio of lime to chlorine depends largely on local conditions, but for practical purposes, can be figured as follows: 1.2 pounds hydrated lime per pound of chlorine or 0.88 pounds of quick lime per pound of chlorine.

Conclusion

There are too many lime producers in the United States manufacturing building lime as their principal product, selling their lime, as chemical lime wherever possible. The writer feels justified in urging favorable consideration by the paper industry, wherever conditions permit, of the lime manufacturers who are making a real effort to scientifically produce a quality chemical lime. And there are a number of such producers, some of whom have spent a great deal of time and money, in order to more satisfactorily meet the particular requirements of the paper industry. Unusual economy can often be realized where purchasing is done on quality standards rather than price standards.

For over ten years the writer has been actively engaged in the production and sale of chemical lime, during which time intimate association with the paper industry has convinced him that much can be done by the lime industry, toward more satisfactorily serving the requirements of the paper mill. Several years of research have revealed a number of possible improvements —including, for instance, a lime which would have practically no sludge. The limiting factor to such development is due, of course, to lime being a very low priced chemical, forced to compete in a market where price standards generally prevail.

Chemical analysis alone is too often made the basis of selecting suitable lime, whereas it actually tells nothing but the relative calcium or magnesium content and the presence of undesirable impurities. The writer's experience and observation in the industry has emphasized the fact that the true value of a limestone or lime can only be determined by its physical characteristics. And this involves a comprehensive study of the stone available and intelligent operation of the quarry, once suitable stone is located. Without minimizing the great importance and possibilities of manufacturing methods, they will avail little without this foundation. Nature has made available many varieties of limestone, each one probably being peculiarly adapted to some particular use. It is up to man to select the one most adaptable to his needs. Experience has proved in many cases that an excellent stone or lime for one purpose will be entirely unsuitable for another.

The quick lime used by the paper industry in the United States can be approximately divided as follows:

Causticizing in soda mills	42 per cent
Causticizing in sulphate mills	40 per cent
Acid manufacture in sulphite mills	12 per cent
Rag stock cooking	5 per cent

These percentages do not include limestone for the manufacture of sulphurous acid in the tower system, nor hydrated lime for the manufacture of liquid chlorine bleach. While there are no definite figures available, the hydrated lime consumed for this purpose will probably run over 75,000 tons. In addition, some of the mills having large bleach requirements have found it economical to use quick lime for chlorine bleach, slaking or hydrating it themselves.

The following statistics have been furnished by the National Lime Association, Washington, D. C.

LIME USED IN PAPER MILLS

Years	Tonnage	Value
1927	429,606	$3,413,030
1928	429,334	3,260,733
1929	411,017	3,057,350

LIMESTONE USED IN PAPER MILLS

Years	Tonnage	Value
1927	289,010	$436,204
1928	155,050	290,590
1929	273,880	456,251

The United States Bureau of Mines, Department of Commerce, reports a total of 4,269,768 tons of lime valued at $33,478,848 sold by producers in the United States during 1929, 2,290,612 tons of this amount, valued at $16,787,408, having been consumed by the chemical industries.

Commercial Classifications of Oil Lubricants

Engine oils for the power house, for example, are divided somewhat arbitrarily into three general classes: medium body, heavy and the compounded engine oils, light engine oils rarely being of much value in power plant service. Both medium and heavy engine oils should be straight mineral oil products, the viscosity of the former being in the neighborhood of 200 (Saybolt) at 100 degrees Fahrenheit and of the latter anywhere from 250 to 325 at 100 degrees, depending upon the service demands. For the medium oil, the specific gravity (Baume scale) should be about 30, not more than 25, while for the heavy oil a specific gravity of around 24 degrees Baumé is about right. In flash point, fire point and cold test temperatures, the differences are quite marked, being for the medium body oils about 400, 450 and 32 degrees respectively and for the heavy bodied oils around 400-450, 450-500 and 35-40 degrees Fahrenheit.

The compounded engine oils, which should be a blend of high grade mineral stock to which a relatively small proportion of lard oil is added, should be almost as heavy as straight mineral heavy engine oils, between 24 and 25 degrees Baumé, with a viscosity of 190 to 240 at 100 degrees. A flash point around 400 and a fire point some 50 degrees higher, with a cold test at about 35 degrees Fahrenheit, complete suitable class specifications.

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The Economic Effect of Selling Below Cost

By Thomas R. Charshee, Trade Association Director, Washington, D. C.

There exist certain fundamental principles which guide the proper conduct of our natural lives. Those who violate those principles must pay the penalty. Certain fundamental principles guide the successful conduct of our business lives and the outstanding among these deals with the selling of goods at a profit. A continuation of the violation of this principle means certain destruction.

What greater folly therefore can any man achieve than that of selling his goods below cost? Very properly we sympathize with the man who is overtaken by misfortune in business, but we withhold it from the man who deliberately creates his own misfortune for he is a fool.

What is the real difference between the man who stands on the curb and tosses his money to a scrambling throng and the one who systematically distributes his money among a throng of greedy buyers. In effect there is no difference, because both men, if undisturbed, will accomplish the same result. However, society makes a distinction between them. The one is taken into court to have his sanity tested and his resources conserved, the other is left to his own destruction in the name of "Business."

He Is Not "Selling"

Under what test of sanity can we justify the action of the man who sells his product below its cost? Surely the appellation "Business-man" does not change the character of his acts or clothe it with intelligence. The only statement that can be made in his behalf is that he is not "selling," and that would be true. No one ever sells below cost if he is conscious of his cost. When you reach the point where you are willing to dispose of your goods below cost, you are ready to *buy* an order. The loss you are willing to accept is the price you pay for it.

It might be better to say that, when you are willing to dispose of your goods below their cost, you are willing to buy a *net loss.* It matters little whether you are endeavoring to secure an order, so a competitor may not have it, or whether you have pressing commitments that compel you to secure ready money for their liquidation, the result of your effort is a net loss on your books.

Whether it is under the compulsion of necessity, under the stress of bitter competition, or the result of ignorance or greed, the act of disposing of goods below cost is an act of desperation.

No industry should permit its price structure to rest upon any such uneconomic thing as the emotional impulse of a desperate man. Where is the leadership of an industry whose price structure rests upon any such unsound foundation? What of the sagacity of the members of an industry who blindly follow a competitive practice established by the least responsible of their number?

No Dodging the Issue

There can be no dodging of the issue. When an industry as a whole shows little or no profit as a result of its operations, the reflection is on those who conduct the industry. When any considerable number of concerns in an industry show loss, while others show profit, the fault does not rest with those who do earn a return on their operations.

There is hardly an industry today which is not capable of producing a much greater volume than can be currently consumed in the existing markets. Many industries not only have excessive capacity but are greatly over-manned. The shoe industry, for example, has a capacity greatly beyond the requirements of the markets. Of this industry less than seventeen per cent of the establishments produce more than sixty-seven per cent of the total annual output. The flour-milling industry is confronted by a situation in which eight per cent of its members produce more than seventy-five per cent of the output, and the capacity of the group constituting eight per cent is equal to considerably greater production.

Many pages could be written in relation to the unfavorable situations that face innumerable industries, but that would be of little value. In every instance the solution of the problem would be an elimination of those concerns which cannot operate at a profit and meet the pressure of competition. The obsolete, unprofitable and under-managed concerns will go under. Economic progress will not tolerate waste. Those who have a greater expense of production, or by reason of location have to support extravagant costs of transportation, or do not produce a sufficiently desirable product, cannot hope that their more fortunate contemporaries will forego their advantage to sustain an over-manned industry. Neither can they hope that the community will subsidize an obsolete industry.

Hasten Their Withdrawal from the Industry

There would be little merit in salving the tender sensibilities of those who are unable to exist under the present conditions, with an assurance that some fortuitous circumstances will develop for their relief. Disposing of their product below cost may be justified by their situation, but it is also hastening their withdrawal from the industry. If these men, in the desperate situation that confronts them, adopt rash policies that will deplete their resources, is it wise for the entire industry to adopt equally demoralizing policies?

Desperation of conduct seems contagious in some industries. Men who are advantageously situated and capable of profitable operation seem panic stricken in their effort to meet the most irresponsible competition. They go far afield to participate in business that carries a certainty of loss. Why do they do this? Because they are not acquainted with the facts relating to their own industry and assume that the desperate situation of the few is the actual condition of all.

Victims of Their Own Fears

Why is it that men who possess every attribute of calm judgment and executive poise in dealing with the problems of production so frequently become heedlessly irresponsible in marketing their output? The answer is that they are on familiar ground when handling production. There they are dealing with tangible facts and are guided by their intimate knowledge of actual conditions. In selling they are dealing with intangible conditions and lack any definite facts upon which to base their judgment. They are influenced by the excitement of competition and often are the victims of their own fears.

Price structure is largely a reflection of the lack of wisdom possessed by a percentage of members of all industries. In other words, there are those, who by reason of their desperate situation, deliberately choose to accept loss to secure orders. There is another group which believes that it is operating profitably while in reality it is depleting its resources, for the lack of practical knowledge of cost. This group accepts loss without knowing it. There is another group which is impelled by greed to accept every order it can secure in the belief that out of the average of its total business a profit will result. In numbers, these three groups constitute a large percentage in many industries.

Is it astonishing that the public has so little confidence in prices in general? It is not popularly believed that any business institution will operate at a loss. It is the general belief that the lowest quoted price is a profitable price and that all higher prices are excessively profitable. Nor is that belief confined to the general public. Those who would regulate business are of much the same opinion. How could it be otherwise, when industries themselves present no facts to refute the mistaken impression?

Restriction of Losses

The foolishness of doing business at a loss is not only in the present losses, but it has its effect upon the relations of industries and the public and ultimately upon the relations of government and industry. There have been agitations for the restriction of profits; might it not be advisable to start an agitation for a restriction of losses? The first step in that direction would be to develop such facts as would truly show the unfortunate situation of an industry. When an industry would have in its possession the facts that would show its actual situation, it would have the means of greatly improving its condition.

What would be the effect of a knowledge of facts upon an industry? We might take the first group whose desperate situation caused it to premeditately accept losses in the vain hope that somehow it may survive and attain a profit-making position. Were this group to clearly recognize the facts of its position, many of its members would discontinue, to avoid further losses. Others would devise means of adapting themselves to the situation through an improvement of processes, or specialization of market, were that possible. Still others would undertake through research, to convert their output to new uses or develop by-products to afford supplementary income. Even in the face of facts, some would continue without change of policy until overtaken by disaster, but some would be saved and others withdraw. The situation of the industry would be improved.

Pressure of Ignorant Competition Relieved

The second group, which is composed of those who do not know their costs and unconsciously absorb losses, would in the face of facts be compelled to recognize the evidence of their own records. Under that situation it is probable that this group would not deliberately continue to assume losses. The pressure of ignorant competition would be relieved.

The third group whose greed urges them to secure every possible order in the belief that from the total there may be found an average of profit, could hardly, upon the basis of known facts, continue such destructive policy. This group is more likely the product of the competitive system than possessed of a clearly defined policy. The ethical standards of the industry would be improved.

Does it really make much difference whether an industry makes an effort to improve its situation or not? From the economic and social standpoint, possibly it does not matter greatly. The pressure of progress compels betterment, and those who resist, through unwillingness to adapt themselves or through ignorance of the fact that a change is in operation, are swept forward or thrown aside. The discomfort is theirs, while society is hardly conscious of the fact that any change is taking place.

The most obvious evidence of a change in an industry is that a considerable number of its members are operating at a loss and are without knowledge of the underlying causes of the condition. Such is the situation throughout many industries today. History will record the success or failure of those engaged in the several industries to intelligently solve their problems.

Similar Problems Confront All Industry

To those engaged in an industry, the problem seems distinctly individual and peculiar to their own industry, but there is a similarity of problems confronting all industry. Over-production, or over-capacity to produce, over-manned industry and destructive competition are as apparent in one industry as another. There is as great need of looking outward as there is for looking inward. Every industry is affected by the changes in another industry, and all industries are influenced in some degrees by all other industries.

With the development of composition shingles and the adoption of slate, tile and prepared roofing, the producers of wooden shingles have the problem of creating new types of demand for their product and the necessity of finding means of making it more attractive. This "New Competition" extends throughout the whole field of industry. It is somewhat astonishing to discover that, as the use of wood for certain purposes is discontinued, a new demand for wood is developed for the production of silk stockings, or, more properly speaking, for the production of rayon, but it also serves for the production of paint and other cellulose products. Pages might be devoted to a mere statement of the results of research.

It is possible that many men in industry have been so engaged with their immediate problems that they have not observed some of the fundamental changes that have taken place within a relatively short time. The fact, for instance, that forty-six per cent of the total value of manufactured goods in 1900 was in essential goods such as food, clothing, and the materials of shelter, while now less than thirty-two per cent is of the same character, has a most significant bearing upon our industrial situation. We are

producing more goods for recreational purposes and for the satisfaction of an increasing desire for diversion.

Specific Interest for All

These things may seem to have but a passing interest and to have slight relation to the problems of a particular industry. However, they have a specific interest for all industry, because no industry is sufficiently remote or specialized as to be unaffected. There are other items of significant interest, such as the fact that freight cars have a greatly increased capacity and that they move an average of six miles per day further than they did at the beginning of the century. That is another way of saying that we are smoothing out our process of distribution and more closely relating the flow of commerce to the current consuming requirements of markets instead of continuing them as intermittent movements. To maintain a more continuous flow of products, industry operates upon a more steady basis, giving more constant employment to its workers, and in consequence of that we now spread income over the whole year. Even agricultural income has lost much of its seasonal character.

Is there anything in this situation that suggests that the problems of an industry can be met by some temporary expedient? Just how much can one hope to contribute to his own welfare by disposing of his goods at less than cost? This is no time to permit the emotional impulses of business rivalry to dominate selling policies. There are more practical methods of bettering one's own situation than that of trying to destroy a competitor by taking away orders that possess no profit. The folly of such competition cannot be expressed within the limitations of any ordinary vocabulary.

How Are Such Problems to be Solved

Again the question is asked: "How are such problems as these to be solved?" There is less difficulty in solving problems than there is in getting started in an intelligent effort to do something about the situation. There are those whose stock excuse is: "We can't do that without conflicting with the Sherman Law, the Clayton Act or the Federal Trade Commission Act." Those pieces of legislation were not designed to estop the application of intelligence to the problems of business, nor do they. They were designed to prevent unfair competition and restraint of opportunity in trade. What one practice is more unfair in competition than that of disposing of goods below cost? What one thing more definitely is in restraint of fair opportunity than the practice of digging down into your capital assets and giving part of your substance to the purchaser of your goods?

Is there any greater folly than that of disposing of your goods below cost? Yes; there is. There is greater folly in knowing that situation exists and complaining of it, without doing anything about it. That is the greatest folly any industry can commit.

Combined wisdom through trade associations is the only practical method of solving these problems and we are but on the threshold of true cooperation.

No Dumping of Salt Cake

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 20—Secretary of the Treasury Mellon, on Monday of last week, signed an order finding no dumping of salt cake on the American market from Germany.

This investigation, which is of considerable importance to the kraft paper industry, has been under way for several months and a number of hearings have been held on it. The order was issued after a complete survey of the situation, the Secretary states.

W. J. Dial Goes With Snow-White Co.

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, April 20, 1931—William J. Dial, will soon leave for Oswego, N. Y., to assume his duties as superintendent of the Snow-White Company, Inc. As superintendent and a director of the new company, Mr. Dial will have active charge of the manufacture of paper pulp from waste paper by a recently discovered and economical process. By 20 years of experience in the manufacture of paper, he is qualified for his new position.

Mr. Dial's first experience in the paper field was gained in this city at the plant of the Mead Pulp and Paper company. He later assumed a position with Crooker, Burbank & Co., at Fitchburg, Mass., and afterward with the Champion Coated Paper Company of Hamilton, Ohio, and the Oxford-Miami Paper company at West Carrollton.

The new process which is to be employed in the manufacture of paper pulp was discovered and patented by W. J. Russel, president of the Snow-White company. Formerly the making of new pulp from scraps of old paper required cooking for five or six hours.

By the Snow-White process the waste paper is chemically treated in such a way that it is de-inked and de-fibered in from 25 to 40 minutes time. The time saved will enable the company to produce high-grade pulp cheaper than it can be manufactured by the old process, it is stated.

The Snow-White company's plant will be able to produce 30 to 50 tons of pulp a day at first, and can increase its production to 100 tons a day within 24 hours by adding additional machinery, according to report.

Boston Paper Market Steady

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 20, 1931.—The paper market here is holding its own, but it is estimated that the volume of sales during the last week has not greatly increased over that of the previous week, if at all. In a canvass of the trade, the majority of dealers say that business has been fair and no better than fair, although in a few cases they state that their business is decidedly better. One wholesaler said he had had a remarkably good week. The trade generally is hopeful for much more improvement than has developed since the situation began to appear somewhat more favorable.

In fine papers, fair-sized and small orders have prevailed, with requests for immediate delivery. Ledgers and bonds are moving in average amounts, as well as writing and book papers. A fine paper dealer intimates that borders have been coming in about the same volume as for the last six or eight months.

The wrapping paper market has been fair. With the textile industry more active, there has been an increased demand for textile papers, as well as specialties, such as paper tubes for yarn-winding purposes. Box board is in moderate demand and in some instances reported as very quiet. In other cases a considerable amount is said to have been sold. At one office it was stated that the present month is easily the best of the year so far. The paper stock market remains featureless, with prices unchanged.

Nekoosa-Edwards Aids Farmers

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 13, 1931—Farmers are being aided by the Nekoosa-Edwards Paper Co., Port Edwards, Wis., by giving them paper mill sludge free of charge, if they do their own hauling. The sludge is found to have a 92 per cent calcium equivalent and is practically the same as limestone in its fertilizer value.

Obituary

Alvah Miller

Alvah Miller, president of the H. G. Craig & Co., Inc., paper merchants, Grand Central Building, New York, died last Thursday at his home in Ossining, N. Y., at the age of 76. His widow was Miss Phebe A. Sutton at their marriage in 1876. In recent years, Mr. Miller had somewhat lessened his business activities and had withdrawn from several directorates, among others those of the Harriman National Bank and the Mechanics Bank of Brooklyn.

Mr. Miller was still vice president of the St. Regis Paper Company, a trustee of the Dime Savings Bank of Williamsburgh and a director of the Ossining Trust Company, Fort Miller Pulp and Paper Company, and the Power Corporation of New York. Among his clubs were the Montauk of Brooklyn, the Union League of this city and the Sleepy Hollow Country Club.

In 1928 Mr. Miller became a member of a committee of citizens of Ossining formed to work for the removal of Sing Sing Prison.

E. A. Hotchkiss

NEW HAVEN, Conn., April 16, 1931.—Edward A Hotchkiss, secretary of the Joseph Parker & Son Company, blotting paper manufacturers, of New Haven, Conn., died at the home of his brother in Pinehurst, N. C., on April 15. Mr. Hotchkiss, a lifelong resident of New Haven, was stricken with a shock and died shortly after.

Mr. Hotchkiss, a member of one of New Haven's well known families, was born in this city in 1899, the son of the late Edwin A. and Caroline Hotchkiss. He was educated in the schools of this city and when a young man entered the employ of Joseph Parker & Son Company, of which his uncle was the founder.

He had been associated with this company for more than 45 years at the time of his death, serving for the past twenty years as a member of the board of directors and secretary of the firm. Previously he had served as a travelling representative of the company, going to nearly all parts of the country in this capacity.

For the past nine years, Mr. Hotchkiss had lived at the Hotel Bishop in Chapel street, moving to there from the Hotel Duncan, where he had lived for several years. He had few fraternal affiliations in the city, but had been a member of the Union League for many years.

His brother, Howard P. Hotchkiss, of Pinehurst, is the only near relative surviving. He leaves, however, a number of cousins and distant relatives who are now residents of this city.

Reginald M. DeCew

Reginald M. DeCew, technical director of the Fibreboard Products Company, Summer, Washington, died recently in that city, aged 37. He was graduated from McGill University and for some time was assistant superintendent with Price Bros. & Co., Ltd., at Kenogami, Que. He had been connected with the Fibreboard Products Company since 1927.

Mr. DeCew was a member of the Technical Association of the Pulp and Paper Industry and was the first vice-president of the Pacific Coast section of TAPPI. He was also a member of Saguenay Lodge, No. 97, A. F. and A. M. He served overseas during the Great War, being stationed at Sir John Moore's Plain for a period extending over three years.

Deceased was the son of Mr. and Mrs. Mark DeCew and a nephew of J. A. DeCew, of Process Engineers, Inc., 501 Fifth Avenue, New York. Besides his parents, he is survived by a brother, W. Howard DeCew, and three sisters, Mrs. H. H. Hales, Miss Helen DeCew and Miss Dorothy DeCew. Interment was in the Masonic Cemetery, Burnaby, British Columbia.

Benjamin J. Ness

CHICAGO, Ill., April 18, 1931.— Benjamin J. Ness, head of Benjamin J. Ness, Inc., paper brokers, of 217 East Illinois street, Chicago, died suddenly on April 14 at his home at 2970 Sheridan Road. Death was due to a sudden heart attack. Mr. Ness was 55 years old and had spent several years in public life in Polk County, Ill., before coming to Chicago.

Mr. Ness was widely known in the paper industry, having spent several years with the Continental Paper and Bag Corporation prior to his entrance into the brokerage business, in which he represented several well known mills and manufacturers.

Burial was in Louisville, Kentucky.

James H. Coombs

[FROM OUR REGULAR CORRESPONDENT]

Glen Park, N. Y., April 20, 1931—James H. Coombs, well known in the paper industry of Northern New York, died at his home here following an illness of several months. Some time ago he suffered an attack of apoplexy from which he failed to rally. He was 73 years old. He was superintendent of construction on a number of paper mill and power projects and continued at that work until 1927 when he retired. He supervised the building of a large paper mill at Carthage and a water wheel for the Dexter Sulphite Pulp and Paper Co. in addition to a number of power projects.

William F. Chapman

CHICAGO, Ill., April 20, 1931.—William F. Chapman, until recently assistant superintendent at the Brown Paper Mill Company's plant at West Monroe, Louisiana, died suddenly at his mother's home in Indiana, where he was visiting. He was well known in the box board industry, having been connected with several of the leading companies. Mr. Chapman, who had a host of friends in the paper industry, leaves a widow, mother, brother and nephew.

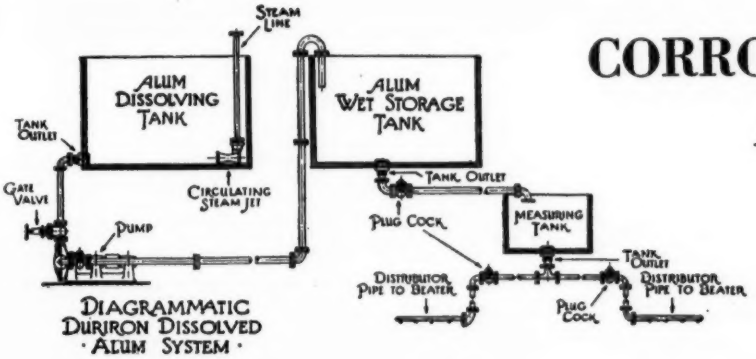
The burial was at Chicago.

Lincoln G. Gurnett

PORTLAND, Me., April 17, 1931.—Lincoln G. Gurnett, financial manager of the Brown Company, paper manufacturers of Portland, Maine, was instantly killed in an automobile accident the morning of April 15. Funeral services were held in the chapel of State street Congregational Church at Portland and the remains were sent to Portal, Arizona, where Mr. Gurnett had a large ranch. The remains were accompanied by William R. Brown, assistant treasurer of the Brown Company.

W. M. McNabb Paper Co. Formed

DAYTON, Ohio, April 20, 1931.—The W. M. McNabb Paper Company, of Miamisburg, to engage in paper jobbing and converting, was granted incorporation papers yesterday. The company is capitalized at $6000 and is authorized to issue 50 shares of stock of $50 each. The incorporators are W. M. McNabb, B. E. Weidner and C. J. McNabb.



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CORROSION QUESTION ANSWERED

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DURIRON

In the system diagrammed above, dry alum is fed to the dissolving tank. The dissolving tank is fitted with a Duriron circulating steam jet, the resulting circulation and heating quickly reducing the alum to a solution. This may be fed to the beaters through measuring tanks direct from the dissolving tank, or it may be pumped to a storage tank and drawn out as needed. All pumps, valves, pipe and fittings are of Duriron. Dissolving, storage, and measuring tanks may be metal or wood and fitted with Duriron outlets.

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The resultant advantages are borne out by the experience of technical paper men with Duriron Dissolved Alum Systems: Up to 15% saving in alum; greater uniformity of product; better color distribution; economy of labor, time and space by handling alum at one point mechanically; lower overhead due to long life equipment.

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NEW YORK IMPORTS

WEEK ENDING APRIL 18, 1931

SUMMARY

Cigarette paper	18 bls., 238 cs.
Wall paper	44 bls., 69 cs.
Paper hangings	5 bls., 1 cs.
News print	2552 rolls
Printing paper	26 webs, 69 rolls, 119 cs.
Wrapping paper	14 cs.
Packing paper	14 cs.
Drawing paper	4 cs.
Filter paper	66 bls., 173 cs.
Colored paper	26 cs.
Metal coated paper	127 cs.
Surface coated paper	24 cs.
Baryta coated paper	102 cs.
Marble paper	6 cs.
Decalcomania paper	28 cs.
Tissue paper	7 cs.
Coated tissue paper	1 cs.
Cover paper	1 cs.
Writing paper	27 cs.
Stencil paper	2 cs.
Paper boxes	1 cs.
Card board	240 cs.
Miscellaneous paper	286 rolls, 51 bls., 83 cs.

CIGARETTE PAPER

Max Speigel & Son, Pr. Wilson, Genoa, 18 bls.
P. J. Schweitzer, Pr. Wilson, Marseilles, 37 cs.
Champagne Paper Corp., Liberty, Havre, 188 cs.
Chase National Bank, A. Ballin, Hamburg, 8 cs.
Brown & Williamson Tobacco Corp., Lafayette, Havre, 5 cs.

WALL PAPER

F. J. Emmerich, A. Ballin, Hamburg, 21 bls.
Phoenix Shipping Co., A. Ballin, Hamburg, 4 cs.
Irving Trust Co., A. Ballin, Hamburg, 43 cs.
A. C. Dodman Jr. Inc., A. Farmer, London, 3 bls.
The Prager Co., Pennland, Antwerp, 20 bls.
R. F. Downing & Co., Tokai Maru, Yokohama, 3 cs.
Guaranty Trust Co., Hamburg, Hamburg, 19 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., A. Farmer, London, 3 bls.
Whiting & Patterson Co. Inc., Berengaria, Southampton, 2 bls., 1 cs.

NEWS PRINT

Perkins Goodwin & Co., A. Ballin, Hamburg, 488 rolls.
——, A. Ballin, Hamburg, 196 rolls.
Jay Madden Corp., Gen. von Steuben, Bremen, 602 rolls.
Perkins Goodwin & Co., Gen. von Steuben, Bremen, 469 rolls.
Lunham & Reeve, Odensholm, Hango, 306 rolls.
Jay Madden Corp., Pr. Harding, Hamburg, 105 rolls.
——, Hamburg, Hamburg, 386 rolls.

PRINTING PAPER

E. Dietzgen & Co., Wytheville, Rotterdam, 103 cs.
C. A. Redden Inc., London Corporation, Dundee, 26 webs.
——, Hamburg, Hamburg, 69 rolls.
Keller Dorian Paper Co., Pr. Wilson, Marseilles, 16 cs.

WRAPPING PAPER

Yardley & Co., Port Huron, London, 2 cs.
——, Volendam, Rotterdam, 12 cs.

PACKING PAPER

Atlantic F'd'g Co., A. Ballin, Hamburg, 14 cs.

DRAWING PAPER

H. Reeve Angel & Co. Inc., A. Farmer, London, 3 cs.
Patent Reproduction Co., Port Huron, London, 1 cs.

FILTER PAPER

A. Giese & Son, A. Ballin, Hamburg, 20 bls.
C. Schleicher Schull Co., A. Ballin, Hamburg, 6 bls., 14 cs.
H. Reeve Angel & Co. Inc., A. Farmer, London, 17 cs.
H. Reeve Angel & Co. Inc., Berengaria, Southampton, 5 cs., 40 bls.
E. Fougera & Co., Majestic, Southampton, 137 cs.

COLORED PAPER

E. Dietzgen & Co., A. Ballin, Hamburg, 21 cs.
National Freight F'd'g Co., A. Ballin, Hamburg, 1 cs.
Persons & Weidhorn, Pennland, Antwerp, 1 cs.
S. Gilbert, Europa, Bremen, 3 cs.

METAL COATED PAPER

K. Pauli Co., Hamburg, Hamburg, 31 cs.
Globe Shipping Co., Gen. von Steuben, Bremen, 64 cs.
——, A. Ballin, Hamburg, 32 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., A. Ballin, Hamburg, 1 cs.
P. C. Zuhkle, Pennland, Antwerp, 2 cs.
Gevaert Co. of America, Pennland, Antwerp, 17 cs.
P. C. Kuyper, Hamburg, Hamburg, 4 cs.

BARYTA COATED PAPER

Globe Shipping Co., Gen. von Steuben, Bremen, 102 cs.

MARBLE PAPER

——, Pennland, Antwerp, 6 cs.

DECALCOMANIA PAPER

C. W. Sellers, A. Ballin, Hamburg, 5 cs.
Phoenix Shipping Co., Europa, Bremen, 2 cs.
B. F. Drakenfeld & Co., Scythia, Liverpool, 21 cs. (duplex).

TISSUE PAPER

F. C. Strype, Conte Grande, Genoa, 5 cs.
F. C. Strype, Scythia, Liverpool, 2 cs.

COATED TISSUE PAPER

W. J. Byrnes & Co., Berengaria, Southampton, 1 cs.

COVER PAPER

International F'd'g Co., A. Ballin, Hamburg, 1 cs.

WRITING PAPER

American Express Co., Vincent, Havre, 2 cs.
Simired, Lafayette, Havre, 18 cs.
Distinctive Writing Paper Co., Lafayette, Havre, 7 cs.

STENCIL PAPER

American Indicator Paper Co., Tokai Maru, Kobe, 2 cs.

PAPER BOXES

P. Seguin, Pr. Wilson, Marseilles, 1 cs.

CARD BOARD

American Express Co., A. Ballin, Hamburg, 240 cs.

MISCELLANEOUS PAPER

Walker Goulard Plehn Co., A. Ballin, Hamburg, 280 rolls.
W. Bersch, A. Ballin, Hamburg, 9 cs.
Walker Goulard Plehn Co., Gen. von Steuben, Bremen, 36 bls.
Heemsoth Basse & Co., Volendam, Rotterdam, 15 bls.
Steiner Paper Corp., Volendam, Rotterdam, 17 cs.
American Express Co., Europa, Bremen, 50 cs.
Steffens Jones Co., Tokai Maru, Kobe, 2 cs.
J. E. Bernard & Co., Lafayette, Havre, 5 cs.

RAGS, BAGGINGS, ETC.

International Accep. Bank, Gen. von Steuben, Bremen, 31 bls. rags.
——, Marengo, Newcastle, 34 bls. rags.
Baring Bros. & Co., A. Farmer, London, 158 bls. rags.
Castle & Overton, Inc., Volendam, Rotterdam, 22 bls. rags.
D. M. Hicks, Inc., Pennland, Antwerp, 41 bls. dry paste.
Chase National Bank, Pennland, Antwerp, 49 bls. dry paste.
W. Steck & Co., Vincent, Dunkirk, 58 bls. rags.
Darmstadt Scott & Courtney, Vincent, Dunkirk, 57 bls. bagging.
Castle & Overton, Inc., Vincent, Dunkirk, 42 bls. rags.
E. J. Keller Co. Inc., Vincent, ——, 105 bls. flax waste.
D. M. Hicks Inc., Vincent, Havre, 34 bls. rags.
V. Galaup, Vincent, Havre, 344 bls. rags.
J. Cohen Son Co., Vincent, Havre, 17 bls. rags.
Katzenstein & Keene, Inc., Vincent, Havre, 27 bls. rags.
Amtorg Trading Corp., Exford, Odessa, 3848 bls. rags.
E. Butterworth & Co. Inc., Cold Harbor, Manchester, 10 bls. bagging.
Darmstadt Scott & Courtney, Exhibitor, Barcelona, 67 bls. bagging.
Chemical Bank & Trust Co., Hamburg, Hamburg, 77 bls. cotton nappers.
Banco Com'l Italiane Trust Co., L. A. Christensen, Savona, 629 bls. bagging.
Chemical Bank & Trust Co., L. A. Christensen, Barcelona, 72 bls. rags.
V. Galaup, Liberty, Havre, 45 bls. rags.
T. D. Downing & Co., California, Glasgow, 70 bls. bagging.
——, California, Glasgow, 10 bls. rags.

OLD ROPE

International Purchasing Co., Excello, Genoa, 161 coils.
——, Marengo, Newcastle, 178 coils.
Brown Bros. & Co., Alfonso XII, Coruna, 40 coils.
International Trust Co., L. A. Christensen, Barcelona, 39 coils.

WOOD PULP

Castle & Overton, Inc., A. Ballin, Hamburg, 550 bls. wood pulp, 110 tons.
A. P. W. Paper Co. (Albany) Dagali, Sheet Harbor, 2084 tons wood pulp.
Lagerloef Trading Co., Odensholm, Hango, 1387 bls. sulphite; 2470 bls. sulphate; 390 bls. wood pulp.
Castle & Overton, Inc., Hamburg, Hamburg, 825 bls. wood pulp, 165 tons.
——, Hamburg, Hamburg, 280 bls. wood pulp, 40 tons.
Russel McCandless, Schenectady, Stockholm, 450 bls. unbleached sulphite.

WOOD FLOUR

Trust Co. of New Jersey, Volendam, Rotterdam, 200 bags.
State Chemical Co., Volendam, Rotterdam, 400 bags.
State Chemical Co., Wytheville, Rotterdam, 568 bags, 28590 kilos.

WOOD PULP BOARD

Johaneson Wales & Sparre, Inc., Gen. von Steuben, Bremen, 509 bls.

BOSTON IMPORTS

WEEK ENDING APRIL 18, 1931

Brown Bros. Harriman & Co., Marengo, Newcastle, 132 coils old rope; 72 bls. yarn.
E. Butterworth & Co. Inc., Exhibitor, Barcelona, 131 bags picker waste.
E. Butterworth & Co. Inc., Maine, London, 35 bls., 102 bags waste paper.
G. M. Graves Co., Maine, London, 38 coils old rope.
Brown Bros. Harriman & Co., Maine, London, 9 coils old rope.
Stone & Downer, Maine, London, 1 cs. paper.
J. B. Woodruff, Maine, London, 20 bls. rags.
Bulkley Dunton & Co., Schenectady, ——, 125 bls. wood pulp.

(Continued on page 66)

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Imports of Paper and Paper Stock

(Continued from page 64)

NORFOLK IMPORTS

WEEK ENDING APRIL 18, 1931

E. J. Keller Co. Inc., Eifel, ——, 53 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING APRIL 18, 1931

National City Bank, Lehigh, London, 174 bls. rags.
Congoleum Nairn Co., Liberty, Dunkirk, 533 bls. rags.
Congoleum Nairn Co., Liberty, Havre, 168 bls. rags.
M. W. Pryor, Maine, London, 62 coils old rope.
Russell McCandless, Stureholm, Stockholm, 750 bls. unbleached sulphite.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 18, 1931

J. A. Steer & Co., Excello, Marseilles, 152 bls. rags.
Liberty National Bank, Excello, Naples, 79 bls. rags.
M. Gottesman & Co. Inc., Odensholm, Stockholm, 90 bls. wood pulp.
J. E. Gefaell, Odensholm, Stockholm, 90 rolls news print.
J. W. Hampton Jr. & Co., Odensholm, Stockholm, 261 rolls news print.
Neidich Process Co., Odensholm, Stockholm, 141 cs. tissue paper.
Lagerloef Trading Co., Odensholm, Stockholm, 12975 bls. sulphite; 2808 bls. sulphate; 694 rolls wood pulp boards.
E. J. Keller Co. Inc., Vincent, ——, 106 bls. rags.
Union Waste Co., Vincent, Dunkirk, 25 bls. rags.
J. M. Hagy Waste Works, Vincent, Dunkirk, 25 bls. rags.
J. Lang Paper Co., Vincent, Dunkirk, 91 bls. rags.
E. H. Bailey & Co., Vincent, Havre, 7 cs. writing paper.
W. J. Jones & Co., Vincent, Havre, 8c s. wall
W. J. Jones, & Co., Vincent, Havre, 8 cs. wall
Maritime F'd'g Co., Vincent, Havre, 305 bls. rags.
V. Galaup, Vincent, Havre, 271 bls. rags.
J. M. Hagy Waste Works, Vincent, Havre, 16 bls. rags.
J. Lang Paper Co., Vincent, Havre, 248 bls. rags.
A. Hurst & Co., Vincent, Havre, 23 bls. rags.
Darmstadt Scott & Courtney, Vincent, Havre, 69 bls. jute waste.
E. J. Keller Co. Inc., London Corporation, ——, 116 coils old rope.
E. J. Keller Co. Inc., West Arrow, ——, 38 bls. rags.

News Print for March

Production of news print in Canada during March, 1931 amounted to 187,005 tons and shipments to 187,730 tons, according to the News Print Service Bureau. Production in the United States was 100,590 tons and shipments 101,044 tons, making a total United States and Canadian news print production of 287,595 tons and shipments of 288,774 tons. During March, 23,643 tons of news print were made in Newfoundland and 1,455 tons in Mexico, so that the total North American production for the month amounted to 312,693 tons.

The Canadian mills produced 70,279 tons less in the first three months of 1931 than in the first three months of 1930, which was a decrease of 12 per cent. The output in the United States was 59,216 tons or 17 per cent less than for the first three months of 1930. Production in Newfoundland was 4,362 tons or 6 per cent more in the first three months of 1931 than in 1930 and in Mexico 998 tons less, making a continental decrease of 126,131 tons or 12 per cent.

During March the Canadian mills operated at 58.1 per cent of rated capacity, United States mills at 68.4 per cent, Newfoundland mills at 93.4 per cent and Mexican mills at 78.8 per cent, making a continental average of 63.0 per cent. Stocks of news print paper at Canadian mills totalled 39,850 tons at the end of March and at United States mills 32,254 tons, making a combined total of 72,104 tons which was equivalent to 4.0 days' average production.

Forest Fires in Wisconsin

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 21, 1931—While federal and state departments were pushing preparations for more effective control of forest fires in Wisconsin, a new and serious loss came to the timber preserves of the state a week ago when 75 separate fires broke out, 14 of which were major in character. An extremely high and hot wind dried out everything so the woods were like tinder. Any small blaze started in dry grass or slashings was fanned into a seething furnace before any control measures could be taken. One area of nearly 75,000 acres in Florence county was burned over, taking with it some very valuable timber. The losses from fire during the two conflagrations have not been estimated, but they will reach into millions, including property within these areas.

At Wisconsin Rapids, Wis., the plant of the Ahdawagam Paper Products Company, was endangered by a fire of considerable proportions within the city, but was saved when fire departments from a 60 mile radius responded to calls for help.

The city of Peshtigo, Ws., where the Badger Paper Mills, Inc., is located, was threatened for a time by forest fires close to the city limits, but a change of wind checked the progress of the flames.

Government authorities have increased their vigilance enlisted additional men, and will use airplanes in an effort to prevent further catastrophes of this kind, since fire is proving the most serious form of timber and pulpwood loss. A dry season is anticipated, thus aggravating conditions already bad because of last year's drouth and light snowfall last winter.

Kimberly-Clark's Earnings Decline

APPLETON, Wis., April 20, 1931—A decline of net earnings of about $200,000 for the first quarter of 1931 as compared to the same period in 1930 is shown in a report submitted to stockholders of Kimberly-Clark Corporation, Neenah, Wis., at the annual meeting last week.

Total net earnings were 484,147.93, equal to 96 cents a share on 499,800 shares of common stock. Last year the company had net for common stock $69,000, or $1.39 a share.

Net sales for the quarter were $4,871,892.64, cost of sales $3,751,993.55, and gross profit $1,119,899.09. General expense, including bond interest, totaled $557,977.26, leaving profit from operation of $561,921.83. Other income of $157,655.21 brought the total to $719,577.04. After allowing $85,429.11 for federal income taxes and $150,000 for preferred stock dividends, the final net for common was $484,147.93.

Two additional members were added to the board of directors, changing the number from 12 to 14. They are W. H. Ryan and C. A. Sommers, the latter of whom was elected treasurer. Other officers and directors re-elected are: F. J. Sensenbrenner, president; John S. Sensenbrenner, Ernst Mahler, S. F. Shattuck and William Boniface, vice presidents; S. R. Stilp, C. B. Lark, J. C. Kimberly, and Frederick Warburg, Melvin L. Emerich and Charles H. Sage, New York, and Walter Kasten, Milwaukee, Wis.

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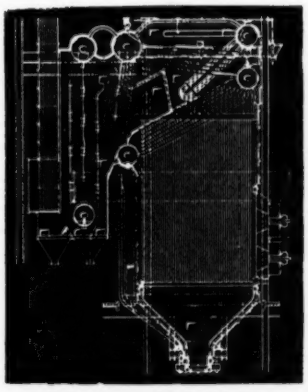

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New York Market Review

Office of the PAPER TRADE JOURNAL.
Wednesday, April 22, 1931

Business in the local paper market was rather quiet during the past week. Demand for the various standard grades of paper was only moderately active. Shipments against contract were fairly satisfactory. Sales forces of the leading paper organizations are conducting a strenuous campaign for orders. Prices are somewhat irregular.

News print production was maintained at 62 per cent of rated capacity in the United State and Canada. Shipments are going forward at 56 per cent of rating. The sensation of the week has been the announcement of the Canadan mills that prices would be cut $5.00 per ton, beginning May 1, with a reduction of $3.00 a ton retroactive to January 1, 1931 in effect until that date.

No radical changes were reported in the paper board market. Box board output is being maintained at the same schedule as previously recorded but the volume of orders has declined slightly. The fine paper market is rather dull at present and prices are spotty. Business in the coarse paper market is slow but prices are generally holding to schedule.

Mechanical Pulp

The Norwegian pulp mill workers strike has not had much effect on the local ground wood market, which is exhibiting a strong undertone, despite prevailing conditions. Although demand is light, offerings are not excessive and the industry is in a sound statistical position. Prices of both domestic and foreign mechanical pulp are holding to previously quoted levels.

Chemical Pulp

Steadiness prevails in the local chemical pulp market. Reports that a specially large reduction in Swedish output will be made in accordance with the international agreement are responsible for a firmer tendency in the situation. Demand for the various grades is fairly persistent at present. Prices are holding to schedule, in most instances.

Old Rope and Bagging

The position of the old rope market is practically unchanged. Little interest is being shown by the paper mills in either domestic or imported old manila rope at present. Small mixed rope is going forward in fair volume. The bagging market is rather dull. Scrap bagging and gunny bagging are only in light request. Roofing bagging, however is fairly active.

Rags

Conditions in the domestic rag market show little change. Cotton rags are not arousing much interest from the paper mills at the present time. There is some inquiry, however, for roofing grades. Mixed rags are very quiet. The imported rag market continues dull and the volume of imports has declined sharply of late. Prices of both domestic and imported grades are spotty.

Waste Paper

Board mill interest in the lower grades of paper stock is slightly better. No. 1 mixed paper is in fair demand. Strictly folded news is steadier. Old kraft machine compressed bales are moving freely. The better grades of waste paper are holding up well. Hard white and soft white shavings are in good demand and book stock continues firm.

Twine

Demand for the various grades of twine was only moderate during the past week. There are a fair number of inquiries for future needs around which may materialize into good orders. Although there are reports of concessions on extra desirable orders, prices are generally holding to formerly quoted levels.

Workers Get Compensation Awards

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., April 20, 1931—Many paper mill workers in this section are benefitted in recent awards granted in a court hearing. Stephen Lawrence was awarded $339.35 for fifty per cent loss of use of his fingers from injuries while working for the Union Bag and Paper Company. An award of $200 was given David La Roe for injuries sustained at the Fort Edward mill of the International Paper Company. Other awards announced were as follows: Daniel Meynihan, Finch, Pruyn & Co., $36.61; Walter Mott, Union Bag and Paper Company, $37.18; Louis B. Stebbins, Hudson Falls Paper Company, $96; George Carter, Imperial Wall Paper Company, $22.42.

SUPERINTENDENTS MEET

(Continued from page 14)

Clarence E. Libby, New York State College of Forestry; Stewart Monroe, Manhattan Rubber & Manufacturing Company; Charles E. Conley, Downingtown Manufacturing Company; F. P. Prather; Mr. and Mrs. J. H. Brougham, Foster Box Board Company; M. C. Osborne, Mr. and Mrs. John A. Weiner and Miss Antoinette Weiner; Mrs. A. J. Farren and Miss Helen Farren; H. A. Harstman, O. T. Chalon, General Dyestuffs Corporation; S. W. Tripp; J. Milhowsk and S. W. Dans, Morris Machine Works, Fred Palmer, Dilts Machine Works and D. O. Sawyer, manager, Eastern Division, Challenge Company, Batavia, Ill., and George W. Van Steenbergh, Paper Trade Journal.

Buchanan & Bolt Damaged by Fire

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 20, 1931—Considerable damage was done to the looms of the Buchanan & Bolt Company manufacturer of Fourdrinier wires at an early morning fire last week. An overheated electric heater set on a bench started a small blaze; but the automatic sprinklers soon put out the fire but not until the water had damaged the looms. Box 153 called the fire department but the fire was out when they arrived.

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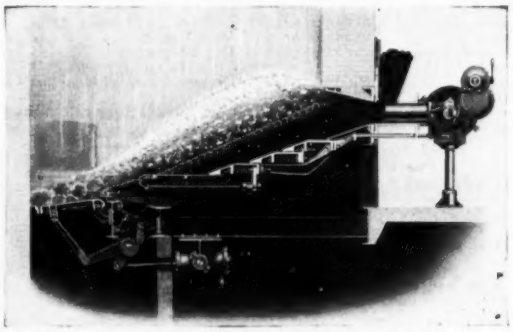

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL.
Wednesday, April 22, 1931.

BLANC FIXE.—Trading in the blanc fixe market was fairly active. Contract shipments are going forward at a normal pace. The pulp is quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is practically unchanged. The contract movement is fairly heavy. Prices are holding to schedule. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works, according to quantity.

CASEIN.—The casein market continues quiet. Domestic standard ground is still quoted at 8 cents and finely ground at 9 cents per pound, Argentine standard ground is selling at 9½ cents and finely ground at 10 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Seasonal conditions prevail in the caustic soda market. Prices generally remain unchanged. Solid caustic soda is quoted at from $2.50 to $2.55, while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is moderately active. Prices are unchanged. Contract shipments are moving in fair volume. Imported china clay is quoted at from $13 to $21 per ton, while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Conditions in the chlorine market are fairly satisfactory. The contract movement is mainly seasonal. Prices are holding to previously quoted levels. Chlorine is selling at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market continues steady to firm. The grades of gum rosin used in the paper mills are now quoted at from $5.95 to $6.25 per 280 pounds, in barrels, at yards. Wood rosin is selling at $4.40 per 280 pounds, in car lots, at southern shipping points.

SALT CAKE.—Demand for salt cake was fairly persistent. Supplies are moving into consumption at a satisfactory pace. Salt cake is quoted at from $16 to $17; German salt cake at from $15.50 to $16; and chrome salt cake at from $14 to $15 per ton, in bulk, at works.

SODA ASH.—The soda ash market was rather dull during the past week. Shipments against contract were fairly heavy. Contract quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bulk, $1.00; in bags, $1.15; and in barrels, $1.38.

STARCH.—Business in the starch market was fairly active. Supplies are going forward to the paper mills in seasonal volume. Prices are holding to schedule. Special paper marking starch is quoted at $2.67, in bags; and at $2.94 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Steadiness prevails in the sulphate of alumina market. The contract movement is well up to average. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is showing a steady trend. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Offerings of talc are adequate to take care of current needs. The contract movement is regular. Prices are holding to schedule. Domestic talc is quoted at from $16 to $18 per ton, in bulk; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	6.75	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	6.75	@	11.00
Book, Cased—			
S. & S. C.	5.50	@	—
M. F.	5.25	@	—
Coated and Enamel	7.00	@	10.50
Lithograph	7.50	@	12.00
Tissues—Per Ream—			
White No. 1	.65	@	.67½
Anti-Tarnish M G only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.57½
Kraft	.65	@	.70
Manila	.55	@	.57½
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¾	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Rolls, contract	59.00	@	—
Rolls, spot	59.00	@	—
Sheets	64.00	@	—
Side Runs	44.00	@	48.00
Kraft—			
No. 1 Domestic	4.25	@	5.30
No. 2 Domestic	3.50	@	4.00
Southern	3.50	@	4.00
Imported	6.00	@	7.00
Boards—per ton—			
News	30.00	@	32.00
Straw	40.00	@	45.00
Chip	30.00	@	32.00
Binders' Boards	65.00	@	70.00
Standard 85 Test Liner	35.00	@	40.00
Sgl. Mla. Li. Chip	42.50	@	—

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	28.00	@	32.00
Dry	30.00	@	34.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@	34.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.60	@	4.25
Easy Bleaching	2.25	@	2.40
No. 1 strong unbleached	2.00	@	2.35
Mitscherlich unbleached	2.10	@	2.70
No. 2 strong unbleached	1.90	@	2.00
No. 1 Kraft	1.40	@	1.75
No. 2 Kraft	1.35	@	1.55
Sulphate—			
Bleached	2.75	@	3.25

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.40	@	4.75
Easy Bleachings	2.55	@	2.75
News	1.80	@	2.50
Mitscherlich	2.50	@	3.25
Kraft (Domestic)	1.60	@	2.75

Delivered Paper Mills)

Soda Bleached	3.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b N. Y.)

Shirt Cuttings—			
New White, No. 1	7.50	@	8.00
New White, No. 2	6.50	@	7.00
Silesias No. 1	5.75	@	6.00
New Unbleached	8.00	@	8.50
New Blue Prints	4.50	@	5.00
New Soft Blacks	4.00	@	4.50
Blue Overall	5.50	@	6.00
Washables	3.75	@	4.00
Fancy	4.00	@	4.50
Mixed Khaki Cuttings	4.25	@	5.25
Pink Corset Cuttings	6.50	@	7.00
O. D. Khaki Cuttings	5.15	@	5.75
Men's Corduroy	3.00	@	3.50
New Mixed Blacks	3.00	@	3.25

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	.90	@	1.00
No. 3	.70	@	.80
No. 4	.65	@	.70
No. 5A	.50	@	.60

Foreign Rags

New Rags

New Dark Cuttings	2.00	@	2.15
New Mixed Cuttings	2.10	@	2.40
New Light Silesias	5.50	@	5.75
Light Flannelettes	6.25	@	6.75
Unbleached Cuttings	7.50	@	8.00
New White Cuttings	7.25	@	7.75
New Light Oxfords	5.50	@	5.75
New Light Prints	3.75	@	4.25

Old Rags

No. 1 White Linens	7.00	@	7.50
No. 2 White Linens	5.50	@	6.00
No. 3 White Linens	4.00	@	4.50
No. 4 White Linens	2.50	@	3.00
No. 1 White Cotton	5.00	@	5.50
No. 2 White Cotton	4.00	@	4.50
No. 3 White Cotton	2.75	@	3.75
No. 4 White Cotton	1.60	@	1.75
Extra Light Prints	2.50	@	2.75
Ord. Light Prints	2.10	@	2.25
Med. Light Prints	1.65	@	1.75
Dutch Blue Cottons	1.90	@	2.10
French Blue Linens	2.65	@	2.75
German Blue Linens	2.25	@	2.40
German Blue Cottons	1.75	@	1.85
Checks and Blues	1.60	@	1.75
Lindsay Garments	1.10	@	1.20
Dark Cottons	.80	@	.90
Old Shopperies	.75	@	.80
New Shopperies	.75	@	.80
French Blues	1.80	@	1.90

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.65	@	1.80
Domestic	1.65	@	1.80
Wool Tares, light	1.30	@	1.40
Wool Tares, heavy	1.30	@	1.40
Bright Bagging	1.30	@	1.35
Small Mixed Rope	.90	@	1.00
Manila Rope—			
Foreign	2.05	@	2.25
Domestic	2.20	@	2.25
New Burlap Cut	2.10	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.75	@	2.85
Hard White, No. 2	2.20	@	2.30
Soft, white, No. 1	2.30	@	2.40
White envelope cuttings	2.70	@	2.85
Flat Stock—			
Stitchless	.85	@	.95
Overissue Mag	.85	@	.95
Solid Flat Book	.75	@	.85
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.80	@	.85
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut	2.00	@	2.20
New Cuttings	1.50	@	1.65
Extra No. 1 old	1.20	@	1.30
Print	.50	@	.60
Bogus Wrapper	.50	@	.60
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.60	@	1.70
Strictly Overissue	.40	@	.45
Strictly Folded	.30	@	.35
No. 1 Mixed Paper	.15	@	.25
Common Paper			Nominal

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Fitchburg, Mass., U. S. A. Lennoxville, P. Q., Canada

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Rolled Phosphor Bronze and Copper Plates for Rotary Screens

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MONARCH METAL COMPANY
Established 1895
119 South Lincoln Street CHICAGO

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.32	@	.34
No. 1	.22	@	.24
No. 2	.21	@	.22
No. 3	.19	@	.20
A. Italian, 18 basis	.38	@	.39
Finished Jute—			
Dark 18 basis	.20½	@	.21
Light 18 basis	.22½	@	—
Jute Wrapping, 3-6 Ply—			
No. 1	.14¼	@	—
No. 2	.13¼	@	—
Tube Rope—			
4-ply and larger	.10¼	@	—
Fine Tube Rope—			
4-ply	.12¼	@	—
3-ply	.13¼	@	—
2-ply	.14¼	@	—
Paper Makers Twine			
Balls	.08¼	@	—
Box Twine, 2-3 ply	.09	@	.10
Jute Rope	.11	@	.12
Amer. Hemp, 6	.29	@	.31
Java Sisal			
No. 1 Basis	.12	@	—
No. 2 Basis	.11¼	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Twine	.22½	@	.24½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06½
No. 1 S.&S.C. Book	.06¾	@	.07¼
No. 2 S.&S.C. Book	05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¾
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	—	@	—
No. 1 Soft Shavings	2.10	@	2.15
Ledger & Writings	.70	@	.75
Solid Books	.75	@	.80
Blanks	1.60	@	1.65
Krafts	1.25	@	1.35
New Kraft Cuts	1.35	@	1.45
Manila Env. Cuts	1.50	@	1.55
Ex. No: 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.28	@	.30
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.07	@	.40
Writings—			
Superfine	.12	@	.18
Extra fine	.16	@	.22
Fine	.15	@	.26
Fine, No. 2	.13½	@	.25
Fine, No. 3	.08½	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.08	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03¼	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03½	@	.04
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03½
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	62.00	@	—
Straw Board	50.00	@	—
News Board	32.50	@	—
Chip Board	30.00	@	—
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00	@	—
No. 2, per ton	68.00	@	—
Carload lots	66.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.07	@	.08
New White, No. 2	.06	@	.06½
Light Silesias	.05½	@	.06
Silesias, No. 1	.07	@	.09
Black Silesias, soft	.05	@	—
New Unbleached	.07½	@	.08
Washable, No. 1	.03¾	@	.04
Blue Overall	.06	@	—
Cotons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.02½	@	.03
Fancy	.04	@	—
New Black Soft	.04	@	.05
New Light Seconds	.02	@	.02½
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05	@	—
No. 2 Mixed	.04	@	.04¼
Corduroy	.02½	@	.03
New Canvas	.07½	@	.08
New Black Mixed.	.03	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	3.50	@	4.00
Miscellaneous	3.00	@	3.50
M. G.	5.00	@	—
Thirds and Blues—			
Miscellaneous	1.50	@	1.75
Repacked	2.00	@	2.25
Black Stockings (Export)	3.80	@	4.00
Roofing Stock—			
Foreign No. 1	1.15	@	1.25
Repacked	.80	@	.90

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	2.75	@	3.00
Sisal Rope	1.25	@	1.50
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.60	@	2.65
No. 2 Hard White	2.30	@	2.35
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.15
No. 2 Books, light	.90	@	.95
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.25	@	1.30
Common Paper	.25	@	.30
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.50	@	.60
Overissue News	.40	@	.45
Old Newspaper	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag Content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.15
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05¾
No. 2 Kraft	0.3½	@	.04¼

(F. o b. Boston)

Southern Kraft	.03½	@	.03¾

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

Delivered New England points

News Print, rolls	61.50	@	—
Straw Board, rolls.009	—	@	52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	32.50	@	—
Chip Board	30.00	@	—
Chip Board (Creasing)	32.50	@	—
Single Manila Lined Chip	45.00	@	—
Single White, Patent Coated News Board			
Bender, No. 1	60.00	@	75.00
Bender, No. 2	55.00	@	65.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	67.50	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.25	@	2.40
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.65
Solid Ledger Books	1.75	@	2.25
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.80	@	1.00
No. 1 Books, light	.55	@	.70
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Kraft No. 1	—	@	1.10
Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.16
Overissue News	—	@	.40
Old Newspapers	.25	@	.30
Box Board, Chip	.16	@	.20
Corrugated Boxes	.35	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.80
Domestic	1.60	@	—
Manila Rope—			
Foreign	2.25	@	—
Domestic	2.50	@	—
Transmission Rope	1.75	@	—
Mixed Strings	—	@	.70
Jute Rope	—	@	1.05
Jute Carpet Threads	.90	@	1.05
Bleachery Burlap	—	@	3.25
No. 1 Scrap Burlap	—	@	1.25
Scrap Sisal	1.35	@	1.40
Scrap Sisal for shredding	—	@	1.50
Wool Tares, heavy	1.30	@	—
New Burlap Cutting	1.75	@	2.00
Australian Pouches	2.50	@	—
Heavy Baling Bagging	—	@	1.75
Paper Mill Bagging	—	@	.85
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.06½	@	.07
New White No. 2	—	@	.06
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.08
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¼
Knaki Cuttings	.04	@	.04¼
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.50	@	2.75
Thirds and Blues—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	.75	@	.80
No. 2	.65	@	.70
No. 3	.50	@	.60
No. 4	—	@	.60

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.75	@	.85
New No. 1 White Shirt Cuttings	7.75	@	8.00
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.65	@	1.75
Old Linsey Garments	.85	@	.95

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.09¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.09½	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.12½	@	7.60
No. 2 M. F. (carloads)	6.90	@	7.35
No. 3 M. F. (carloads)	6.65	@	7.15
No. 1 S. C. (carloads)	7.60	@	8.10
No. 2 S. C. (carloads)	7.35	@	7.85
No. 3 S. C. (carloads)	7.12½	@	7.60
No. 4 S. C. (carloads)	5.95	@	6.40
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	70.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock	1.20	@	—
Ledgers and Writings	—	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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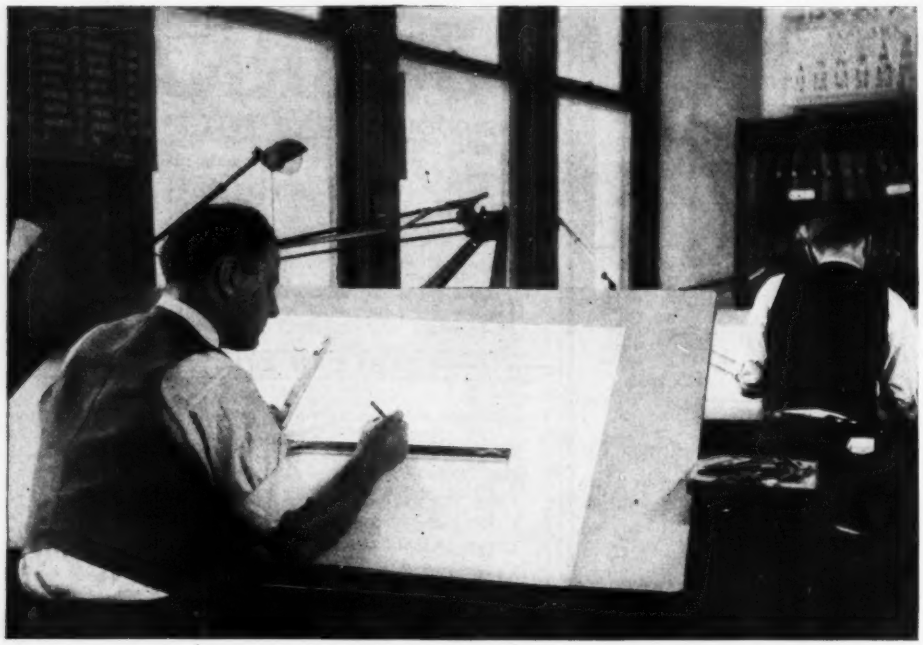

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